

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: \_\_\_\_\_ Examiner #: \_\_\_\_\_ Date: \_\_\_\_\_  
Art Unit: \_\_\_\_\_ Phone Number 30 \_\_\_\_\_ Serial Number: \_\_\_\_\_  
Mail Box and Bldg/Room Location: \_\_\_\_\_ Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

## STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: _____	NA Sequence (#) _____	STN _____
Searcher Phone #: <b>if Contact: Sheppard</b>	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <b>tel: 305-4499</b>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

GenCore version 4.5  
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## OM protein - protein search, using sw model

Run on: July 3, 2001, 10:25:40 ; Search time 11.69 Seconds  
(Without alignments)  
191.279 Million cell updates/sec

Title: US-09-541-752-2\_COPY\_235\_345  
Perfect score: 621  
Sequence: 1 VVDNLNLTREVEALYSCTPRN.....DVALEHHEECDCVCRGSTG 111

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 193259 seqs, 20144635 residues

Total number of hits satisfying chosen parameters: 193259

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued\_Patents\_AA:\*  
1: /cgn2\_6/ptodata/2/1aa/5A-COMB.pep.\*  
2: /cgn2\_6/ptodata/2/1aa/5B-COMB.pep.\*  
3: /cgn2\_6/ptodata/2/1aa/6A-COMB.pep.\*  
4: /cgn2\_6/ptodata/2/1aa/6B-COMB.pep.\*  
5: /cgn2\_6/ptodata/2/1aa/PCTUS-COMB.pep.\*  
6: /cgn2\_6/ptodata/2/1aa/backfiles1.pep.\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	119.5	19.2	321	4	US-08-915-795-9
2	119.5	19.2	358	4	US-08-915-795-8
3	115.5	18.6	325	4	US-08-915-795-3
4	115.5	18.6	354	4	US-08-915-795-5
5	105	16.9	109	1	US-08-094-079-2
6	105	16.9	109	1	US-08-094-079-3
7	105	16.9	109	2	US-08-804-953-3
8	105	16.9	109	3	US-08-691-794-4
9	105	16.9	109	5	PCT-US91-02766-18
10	105	16.9	109	5	PCT-US93-02612-1
11	105	16.9	109	6	5498600-3
12	105	16.9	119	6	US-08-257-494D-1
13	105	16.9	120	6	5428133-2
14	105	16.9	146	3	US-08-989-251-2
15	105	16.9	146	3	US-08-989-251-25
16	105	16.9	146	3	US-09-340-250-2
17	105	16.9	146	3	US-09-340-250-25
18	105	16.9	160	1	US-08-094-079-1
19	105	16.9	188	1	US-08-469-427A-11
20	105	16.9	188	1	US-08-609-443B-11
21	105	16.9	188	2	US-08-569-063C-11
22	105	16.9	188	4	US-08-795-430-57
23	105	16.9	190	3	US-08-867-352-25
24	105	16.9	205	3	US-08-989-251-27
25	105	16.9	205	3	US-08-989-251-37
26	105	16.9	205	3	US-09-340-250-27
27	105	16.9	205	3	US-09-340-250-37

28	105	16.9	207	2	US-08-609-443B-15	Sequence 15, Appl
29	105	16.9	207	2	US-08-569-063C-15	Sequence 15, Appl
30	105	16.9	220	6	5175255-4	Patent No. 5175255
31	105	16.9	241	1	US-08-387-845-4	Sequence 4, Appl
32	105	16.9	241	2	US-08-989-811-6	Sequence 6, Appl
33	105	16.9	241	2	US-08-778-275-4	Sequence 4, Appl
34	105	16.9	241	2	US-08-824-996-8	Sequence 8, Appl
35	105	16.9	241	3	US-08-989-251-29	Sequence 29, Appl
36	105	16.9	241	3	US-09-042-105-6	Sequence 6, Appl
37	105	16.9	241	3	US-08-867-352-4	Sequence 4, Appl
38	105	16.9	241	3	US-09-340-250-29	Sequence 29, Appl
39	105	16.9	241	3	US-08-795-430-54	Sequence 54, Appl
40	105	16.9	241	5	PCT-US96-09001-9	Sequence 9, Appl
41	105	16.9	241	6	5194596-15	Patent No. 5194596
42	105	16.9	241	6	5219739-15	Patent No. 5219739
43	105	16.9	282	1	US-08-445-847A-1	Sequence 1, Appl
44	104.5	16.8	109	3	US-08-691-794-3	Sequence 3, Appl
45	104.5	16.8	121	6	5194596-19	Patent No. 5194596

## ALIGNMENTS

RESULT 1  
US-08-915-795-9  
Sequence 9, Application US/08915795  
Patent No. 6235713  
GENERAL INFORMATION:  
APPLICANT: Marc G. ACHEN  
APPLICANT: Andrew F. WILKS  
APPLICANT: Steven A. STACKER  
APPLICANT: Karl ALITALO  
TITLE OF INVENTION: GROWTH FACTOR  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESSES:  
ADDRESSEE: Evenson, McKewen, Edwards & Lenahan P.L.L.C.  
STREET: 1200 G Street, NW, Suite 700  
CITY: Washington  
STATE: DC  
COUNTRY: United States of America  
ZIP: 20005  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/915,795  
FILING DATE:  
CLASSIFICATION: 536  
ATTORNEY/AGENT INFORMATION:  
NAME: EVANS, Joseph D.  
REGISTRATION NUMBER: 26,269  
REFERENCE/DOCKET NUMBER: 1064/42983  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (202) 628-8800  
TELEFAX: (202) 628-8844  
TELEX: N/A  
INFORMATION FOR SEQ ID NO: 9:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 321 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
ORIGINAL SOURCE:  
TISSUE TYPE: Mouse Lung  
US-08-915-795-9  
Query Match 19.2% Score 119.5; DB 4: Length 321;  
Best Local Similarity 33.3% Pred. No. 1.4e-05;  
Matches 36; Conservative 15; Mismatches 42; Indels 15; Gaps 6;

OY 4 LNLLEEVRLYSCTPRNFSVSIREEL-KRTDTIFMPGCLLVKRCGNCACCLHNCNECOC 62  
DB 99 LKVIDEEMORTQCSPRETCVEVASELGTNTFFKPCVNVFRCGC---CC---NEGVVNC 153  
OY 63 V---PSKVTKKYHEVLQLRPKTGVRGLHKSITDVALEHHEECDCVCRG 107  
DB 154 MMTSTYSISKOLFETISV--PLTSV---PELVYVKIANHTGCKCLPTG 195

## RESULT 2

US-08-915-795-8  
Sequence 8, Application US/08915795  
Patent No. 6235713  
GENERAL INFORMATION:  
APPLICANT: Marc G. ACHEN  
APPLICANT: Andrew F. WILKS  
APPLICANT: Steven A. STACKER  
APPLICANT: Karl ALITALO  
TITLE OF INVENTION: GROWTH FACTOR  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Evenson, McKeown, Edwards & Lenahan P.L.L.C.  
STREET: 1200 G Street, NW, Suite 700  
CITY: Washington  
STATE: DC  
COUNTRY: United States of America  
ZIP: 20005  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/915,795  
FILING DATE:  
CLASSIFICATION: 536  
ATTORNEY/AGENT INFORMATION:  
NAME: EVANS, Joseph D.  
REGISTRATION NUMBER: 26,269  
REFERENCE/DOCKET NUMBER: 1064/42983  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (202) 628-8800  
TELEFAX: (202) 628-8844  
TELEX: N/A  
INFORMATION FOR SEQ ID NO: 8:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 358 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
ORIGINAL SOURCE:  
TISSUE TYPE: Mouse Lung  
US-08-915-795-8

Query Match 19.2%; Score 119.5; DB 4; Length 358;  
Best Local Similarity 33.3%; Pred. NO. 1.5e-05;  
Matches 36; Conservative 15; Mismatches 42; Indels 15; Gaps 6;

OY 4 LNLLEEVRLYSCTPRNFSVSIREEL-KRTDTIFMPGCLLVKRCGNCACCLHNCNECOC 62  
DB 104 LKVIDEEMORTQCSPRETCVEVASELGTNTFFKPCVNVFRCGC---CC---NEGVVNC 158  
OY 63 V---PSKVTKKYHEVLQLRPKTGVRGLHKSITDVALEHHEECDCVCRG 107  
DB 154 MMTSTYSISKOLFETISV--PLTSV---PELVYVKIANHTGCKCLPTG 200

RESULT 3  
US-08-915-795-3  
Sequence 3, Application US/08915795

Patent No. 6235713  
GENERAL INFORMATION:  
APPLICANT: Marc G. ACHEN  
APPLICANT: Andrew F. WILKS  
APPLICANT: Steven A. STACKER  
APPLICANT: Karl ALITALO  
TITLE OF INVENTION: GROWTH FACTOR  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Evenson, McKeown, Edwards & Lenahan P.L.L.C.  
STREET: 1200 G Street, NW, Suite 700  
CITY: Washington  
STATE: DC  
COUNTRY: United States of America  
ZIP: 20005  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/915,795  
FILING DATE:  
CLASSIFICATION: 536  
ATTORNEY/AGENT INFORMATION:  
NAME: EVANS, Joseph D.  
REGISTRATION NUMBER: 26,269  
REFERENCE/DOCKET NUMBER: 1064/42983  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (202) 628-8800  
TELEFAX: (202) 628-8844  
TELEX: N/A  
INFORMATION FOR SEQ ID NO: 3:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 325 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ORIGINAL SOURCE:  
TISSUE TYPE: Human Breast  
US-08-915-795-3

Query Match 18.6%; Score 115.5; DB 4; Length 325;  
Best Local Similarity 33.0%; Pred. NO. 3.8e-05;  
Matches 34; Conservative 14; Mismatches 44; Indels 11; Gaps 5;

OY 4 LNLLEEVRLYSCTPRNFSVSIREEL-KRTDTIFMPGCLLVKRCGNCACCLHNCNEC-O 61  
DB 70 LKVIDEEMORTQCSPRETCVEVASELGTNTFFKPCVNVFRCGC---CCNEESLIGMN 126  
OY 62 CVPSKVTKKYHEVLQLRPKTGVRGLHKSITDVALEHHEECDCV 104  
DB 127 TSTYSISKOLFETISV--PLTSV---PELVYVKIANHTGCKCL 163

RESULT 4  
US-08-915-795-5  
Sequence 5, Application US/08915795  
Patent No. 6235713  
GENERAL INFORMATION:  
APPLICANT: Marc G. ACHEN  
APPLICANT: Andrew F. WILKS  
APPLICANT: Steven A. STACKER  
APPLICANT: Karl ALITALO  
TITLE OF INVENTION: GROWTH FACTOR  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Evenson, McKeown, Edwards & Lenahan P.L.L.C.  
STREET: 1200 G Street, NW, Suite 700  
CITY: Washington

STATE: DC  
COUNTRY: United States of America  
ZIP: 20005  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/915,795  
FILING DATE:  
CLASSIFICATION: 536  
ATTORNEY/AGENT INFORMATION:  
NAME: EVANS, Joseph D.  
REGISTRATION NUMBER: 26,269  
REFERENCE/DOCKET NUMBER: 106442983  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (202) 628-8800  
TELEFAX: (202) 628-8844  
TELEX: N/A  
INFORMATION FOR SEQ ID NO: 5:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 354 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ORIGINAL SOURCE:  
TISSUE TYPE: Human Lung  
US-08-915-795-5

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Query Match          18.6%; Score 115.5; DB 4; Length 354;
Best Local Similarity 33.0%; Pred. No. 4.2e-05;
Matches 34; Conservative 14; Mismatches 44; Indels 11; Gaps 5

OY      4 LNLLEEVRLSCPTPRNFSVSIREDL-KRTDITFMPGCLLVRCGGNCACCLHNCNEC-Q 61
       | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
Db      99 LKVIDEENQROCRSPREICVEVASELGKSTNTFFRPPCVNFRCGS---CNBESLICNN 155

OY      62 CVPSSVTKKYHEVLQLRPKTGYGLHKSLTDVALEHNEECGV 104
       | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
Db     156 TTSYSIKOLFETISV--PLTSY----PELVPKVANHTGCKKL 192

RESULT    5
US-08-094-079-2
Sequence 2, Application US/08094079
Patent No. 5512545

GENERAL INFORMATION:
APPLICANT: COOK, Anne L
APPLICANT: CRAIG, Stewart
APPLICANT: CLEMENTS, John M
APPLICANT: EDWARDS, Richard M
APPLICANT: BROWN, David
TITLE OF INVENTION: PDGF-B ANALOGUES
NUMBER OF SEQUENCES: 22
CORRESPONDENCE ADDRESS:
ADDRESSEE: Alleghetti & Wilcoff, Ltd.
STREET: 10 S. Wacker Dr.
CITY: Chicago
STATE: Illinois
COUNTRY: USA
ZIP: 60606

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/094.079
FILING DATE: 24-JAN-1992

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1  CLASSIFICATION: 435
2  PRIOR APPLICATION DATA:
3  APPLICATION NUMBER: WO PCT/GB92/00141
4  FILING DATE: 24-JAN-1992
5  PRIOR APPLICATION DATA:
6  APPLICATION NUMBER: GB 9101645.1
7  FILING DATE: 24-JAN-1991
8  ATTORNEY/AGENT INFORMATION:
9  NAME: McDonnell, John J
10 REGISTRATION NUMBER: 26, 949
11 REFERENCE/DOCKET NUMBER: 93, 640
12 TELECOMMUNICATION INFORMATION:
13 TELEPHONE: 312-715-1000
14 TELEFAX: 312-715-1234
15 INFORMATION FOR SEQ. ID NO. 2:
16 SEQUENCE CHARACTERISTICS:
17 LENGTH: 109 amino acids
18 TYPE: amino acid
19 STRANDEDNESS: single
20 TOPOLOGY: linear
21 MOLECULE TYPE: protein
22 FEATURE:
23 NAME/KEY: Protein
24 LOCATION: 1..109
25 OTHER INFORMATION: /note="Truncated PDGF-B (PDGF-Bt)."
26
27 US-08-034-079-2

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Query Match Similarity      16.9%: Score 105; DB 1; Length 109;
Best Local Similarity      33.3%: Pred. No. 0.00015;
Matches      36; Conservative      12; Mismatches      34; Indels      26; Gaps      9

OY      7      LEEVRLVSCPEPRN--FVSYSIREELKRDYIF--WPGCLLVKRCGNGACCLHNCNECC 62
      :      |      |      |      |      |      |      |      |      |      |      |
Db      7      IAEPAIMECKRTREVEFEIS-RRLIDRTNANLVMPPEVCVEORCSG----CC--NNNVOC 60

OY      63      VPSKTYTKYHEVQLRP-----KTGV---RGLKSLDVALNHHNEEDC 103
      :      |      |      |      |      |      |      |      |      |      |
Db      61      RPTGV-----QLRPVQVRKIEIVRKRPFRKAT-VLLEHLLACKC 99

RESULT      6
US-08-094-079-3
Sequence 3, Application US/08094079
Patent No. 5512545

GENERAL INFORMATION:
APPLICANT: COOK, Anne L
APPLICANT: CRAIG, Stewart
APPLICANT: CLEMENTS, John M
APPLICANT: EDWARDS, Richard M
APPLICANT: BROWN, David
TITLE OF INVENTION: PDGF-B ANALOGUES
NUMBER OF SEQUENCES: 22
CORRESPONDENCE ADDRESSES:
ADDRESSEE: Allegetti & Mitcoff, Ltd.
STREET: 10 S. Wacker Dr.
CITY: Chicago
STATE: Illinois
COUNTRY: USA

ZIP: 60606

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/094,079
FILING DATE: 24-JAN-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB92/000141
FILING DATE: 24-JAN-1992
PRIOR APPLICATION DATA:

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: APPLICATION NUMBER: GB 9101645.1
: FILING DATE: 24-JAN-1991
: ATTORNEY/AGENT INFORMATION:
:
: NAME: McDonnell, John J
: REGISTRATION NUMBER: 26,949
: REFERENCE/DOCKET NUMBER: 93,640
: TELECOMMUNICATION INFORMATION:
:
: TELEPHONE: 312-715-1000
:
: TELEFAX: 312-715-1234
:
: INFORMATION FOR SEQ ID NO: 3:
:
: SEQUENCE CHARACTERISTICS:
:
: LENGTH: 109 amino acids
: TYPE: amino acid
: STRANDEDNESS: single
: TOPOLOGY: linear
:
: MOLECULE TYPE: protein
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: FEATURE:
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: NAME/KEY: Protein
: LOCATION: 1..109
: OTHER INFORMATION: /note="Truncated PDGF-B with ARG
:
: OTHER INFORMATION: 28 > SER (PDGF-B5)"
:
: US-08-094-079-3

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```

NAME: EISELE, JOSEPH T.
REGISTRATION NUMBER: 25,331
REFERENCE/DOCKET NUMBER: 2727-56 PCT
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 687-6000
TELEFAX: (212) 682-3485
TELEX: (212) 426767
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 109 residues
TYPE: amino acid
STRANDEDNESS: N/A
TOPOLOGY: linear
MOLECULE TYPE: Protein
HYPOTHETICAL: yes
ANTI-SENSE: NO
FRAGMENT TYPE:
ORIGINAL SOURCE:
ORGANISM:
STRAIN: E. Coli
INDIVIDUAL ISOLATE:
DEVELOPMENTAL STAGE:
HAPOTYPE:
TISSUE TYPE:
CELL TYPE:
CELL LINE:
ORGANELLE:
IMMEDIATE SOURCE:
CLONE: PDGF-A
FEATURE:
OTHER INFORMATION:

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SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/691,794  
FILING DATE: 02-AUG-1996  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 60/002,827  
FILING DATE: 25-AUG-1995  
APPLICATION DATA:  
APPLICATION NUMBER: US 08/567,200  
FILING DATE: 05-DEC-1995  
ATTORNEY/AGENT INFORMATION:  
NAME: Dreger, Walter H.  
REGISTRATION NUMBER: 24,190  
REFERENCE/DOCKET NUMBER: A-63756/WHD  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (415) 781-1989  
TELEFAX: (415) 398-3249  
TELEX: 910 277299  
INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 109 amino acids  
TYPE: amino acid  
STRANDEDNESS: unknown  
TOPOLOGY: unknown  
MOLECULE TYPE: protein  
US-08-691-794-4

Query Match 16.9%; Score 105; DB 3; Length 109;  
Best Local Similarity 33.3%; Pred. No. 0.00015;  
Matches 36; Conservative 12; Mismatches 34; Indels 26; Gaps 9;

OY 7 LEEVRLVYSCPTPRN--FSVSIREELKRTDIF--WPGCLLVKRCGGACACCLHNCCOC 62  
DB 7 IAPPMIAECKTTEVEFELS--RRLIDRTNANFLVMPVCVEVQRCSCG---CC--NNRVQC 60  
OY 63 VPSKYTKKHYEVQLRP---KTGV---RGLHKSITDVALEHHEECDC 103  
DB 61 RPTQV-----QLRPVQYRKIEIVKRPFFKAT-VTLEDHLACKC 99

RESULT 9  
PCT-US91-02766-18  
Sequence 18, Application PC/TUS9102766  
GENERAL INFORMATION:  
APPLICANT: NASCIMENTO, CARLOS G.  
APPLICANT: CALDERON-CACIA, MARIA D.  
TITLE OF INVENTION: GLYCOSYLATED PDGF  
NUMBER OF SEQUENCES: 24  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Irell & Manella  
STREET: 545 Middlefield Road, Suite 200  
CITY: Menlo Park  
STATE: California  
COUNTRY: USA  
ZIP: 94025  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US91/02766  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/515,474  
FILING DATE: 26-APR-1990  
ATTORNEY/AGENT INFORMATION:  
NAME: ROBINS, ROBERTA L.  
REGISTRATION NUMBER: 33,208  
REFERENCE/DOCKET NUMBER: 2300-0105.40

TELECOMMUNICATION INFORMATION:  
TELEPHONE: (415) 327-7250  
TELEFAX: (415) 327-2951  
TELEX: 706141  
INFORMATION FOR SEQ ID NO: 18:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 109 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
PCT-US91-02766-18

Query Match 16.9%; Score 105; DB 5; Length 109;  
Best Local Similarity 33.3%; Pred. No. 0.00015;  
Matches 36; Conservative 12; Mismatches 34; Indels 26; Gaps 9;

OY 7 LEEVRLVYSCPTPRN--FSVSIREELKRTDIF--WPGCLLVKRCGGACACCLHNCCOC 62  
DB 7 IAPPMIAECKTTEVEFELS--RRLIDRTNANFLVMPVCVEVQRCSCG---CC--NNRVQC 60  
OY 63 VPSKYTKKHYEVQLRP---KTGV---RGLHKSITDVALEHHEECDC 103  
DB 61 RPTQV-----QLRPVQYRKIEIVKRPFFKAT-VTLEDHLACKC 99

RESULT 10  
PCT-US93-02612-1  
Sequence 1, Application PC/TUS9302612  
GENERAL INFORMATION:  
APPLICANT: Cable, Michael  
APPLICANT: Hesson, Thomas  
APPLICANT: Mannarino, Anthony  
TITLE OF INVENTION: Monomeric Platelet-Derived Growth Factor and Prevention of  
NUMBER OF SEQUENCES: 8  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Schering-Plough Corporation  
STREET: One Giralda Farms  
CITY: Madison  
STATE: New Jersey  
COUNTRY: USA  
ZIP: 07940  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: Apple Macintosh  
OPERATING SYSTEM: Macintosh 6.0.5  
SOFTWARE: Microsoft Word 4.00B  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US93/02612  
FILING DATE: 19930326  
CLASSIFICATION:  
PRIOR APPLICATION DATA: None  
ATTORNEY/AGENT INFORMATION:  
NAME: Lunn, Paul, G.  
REGISTRATION NUMBER: 32,743  
REFERENCE/DOCKET NUMBER: JB0255  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 201-822-7255  
TELEFAX: 201-822-7039  
TELEX: 219165  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 109 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
PCT-US93-02612-1

Query Match 16.9%; Score 105; DB 5; Length 109;  
Best Local Similarity 33.3%; Pred. No. 0.00015;  
Matches 36; Conservative 12; Mismatches 34; Indels 26; Gaps 9;

[illegible]

```

RESULT 11
5498600-3
Patent No. 5498600
APPLICANT: MURRAY, MARK J.; KELLY, JAMES D.
TITLE OF INVENTION: BIOLOGICALLY ACTIVE MOSAIC PROTEINS
NUMBER OF SEQUENCES: 34
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/319,776
FILING DATE: 07-OCT-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 926,149
FILING DATE: 05-AUG-1992
APPLICATION NUMBER: 379,239
FILING DATE: 11-JUL-1989
APPLICATION NUMBER: 941,970
FILING DATE: 15-DEC-1986
APPLICATION NUMBER: 896,485
FILING DATE: 3-AUG-1985
APPLICATION NUMBER: 705,175
FILING DATE: 25-FEB-1985
APPLICATION NUMBER: 660,496
FILING DATE: 12-OCT-1984
SEQ ID NO.: 3
LENGTH: 109
5498600-3

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Query Match	16.9%	Score 105;	DB 6;	Length 109;
Best Local	33.3%	Pred. No. 0.00015;		
Matches 36;	Conservative 12;	Mismatches 34;	Indels 26;	Gaps 9;

RESULT 12  
US-08-257-494D-1  
Sequence 1, Application US/08257494D  
Patent No. 5863892  
GENERAL INFORMATION:  
APPLICANT: Allergan, Inc.  
TITLE OF INVENTION: USE OF PLATELET  
TITLE OF INVENTION: DERIVED GROWTH FACTOR IN OPHTHALMIC  
TITLE OF INVENTION: WOUND HEALING  
NUMBER OF SEQUENCES: 6  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Allergan, Inc.  
STREET: 2525 Dupont Drive  
CITY: Irvine  
STATE: California  
COUNTRY: USA  
ZIP: 92715  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette, 3.50 inch,  
MEDIUM TYPE: 1.40MB storage  
COMPUTER: Apple Macintosh II  
OPERATING SYSTEM: Macintosh OS 7.1  
SOFTWARE: Microsoft Word 5.1a  
CURRENT APPLICATION DATA:

```

1      APPLICATION NUMBER:  US/08/257,494D
2      FILING DATE:      26 FEB 1992
3      CLASSIFICATION:    514
4      PRIOR APPLICATION DATA:
5      APPLICATION NUMBER:  USSN
6      APPLICATION NUMBER:  07/842,306
7      FILING DATE:      26 FEB 1992
8      ATTORNEY/AGENT INFORMATION:
9      NAME:  Baran, Robert J.
10     REGISTRATION NUMBER:  25,806
11     REFERENCE/DOCKET NUMBER:
12     REFERENCE/DOCKET NUMBER:  16895(AP)FMC
13     TELECOMMUNICATION INFORMATION:
14     TELEPHONE:  (714) 246-4659
15     TELEFAX:  (714) 246-4249
16     INFORMATION FOR SEQ ID NO:  1:
17     SEQUENCE CHARACTERISTICS:
18     LENGTH:  119 amino acid residues
19     TYPE:  amino acid
20     STRANDEDNESS:
21     TOPOLOGY:  linear
22     MOLECULE TYPE:  peptide
23     US-08-257-494D-1

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Query Match	16.98	Score	105	DB 2	Length	119			
Best Local Similarity	33.38	Pred. No.	0.00017						
Matches	36	Conservative	12	Mismatches	34	Indels	26	Gaps	9

RESULT 13  
5428135-2  
Patent No. 5428135  
APPLICANT: LYONS, DAVID E.; THOMASON, ARLEN R.  
TITLE OF INVENTION: PRODUCTION OF PLATELET-DERIVED GROWTH  
FACTOR B-CHAIN HETERODIMERS FROM HIGH EXPRESSION HOST CELL SYSTEM  
NUMBER OF SEQUENCES: 10  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/236,880  
FILING DATE: 29-APR-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 623,671  
FILING DATE: 12-DEC-1990  
APPLICATION NUMBER: 451,485  
FILING DATE: 15-DEC-1989  
SEQ ID NO: 2:  
LENGTH: 120  
5428135-2

Query Match	16.9%	Score 105	DB 6	Length 120
Best Local Similarity	33.3%	Pred. No. 0.00017		
Matches	36	Conservative	12	Mismatches 34; Indels 26; Gaps 9.
QY	7	LTEEURLYSCPRRN--FVSYIREELKRTDTIF--RPGCLLYVRGGGNACCLHCNNECOC	62	
	:	:	:	:
	:	:	:	:
DB	8	IAEPAMIECKTRFEVFELIS--RLLDRTINANLVMPCCVEVORCGS--CC--NNKRNVOCC	61	
QY	63	VPSKYTKRKYHEVLQLRP----KTGV----RGLHSLTDVALEHNECCDC	103	
	:	:	:	:
	:	:	:	:
DB	62	RPTGV-----QLRPQVQRKIEIVLRKKRPFKKAT--VLEDLNHLCKC	100	

RESULT 14  
US-08-989-251-2

```
; Sequence 2, Application US/08989251
; Patent No. 6017731
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; TITLE OF INVENTION: PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/989,251
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 146 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-989-251-2
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Query Match 16.9%; Score 105; DB 3; Length 146;
Best Local Similarity 33.3%; Pred. No. 0.00021;
Matches 36; Conservative 12; Mismatches 34; Indels 26; Gaps 9;
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```
OY 7 LEEVRLYCTPRN--FSVSIRELKRDTIF--WPGCLLVKRCGNCACCLHNCNECC 62
   : : : : : : : : : : : : : : : : : : : : : : : : : :
Db 44 IAEPMIAECKTRTEVEFIS--RLIDRTNANFLWMPCEVEVQRCSG---CC--NNRNVC 97
   : : : : : : : : : : : : : : : : : : : : : : : : : :
OY 63 VPSKVTKKHYEVQLRP---KTGV---RGLHSLTDVALEHHEECDC 103
   : : : : : : : : : : : : : : : : : : : : : : : : : :
Db 98 RPTQV-----QLRPQVRKIEIVRKKPIFKKAT-VTLEDHLAKC 136
   : : : : : : : : : : : : : : : : : : : : : : : : : :
```

```
RESULT 15
US-08-989-251-25
; Sequence 25, Application US/08989251
; Patent No. 6017731
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; TITLE OF INVENTION: PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: Patentin Release #1.0, Version #1.30
```

```
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/989,251
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175
; INFORMATION FOR SEQ ID NO: 25:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 146 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-989-251-25
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```
Query Match 16.9%; Score 105; DB 3; Length 146;
Best Local Similarity 33.3%; Pred. No. 0.00021;
Matches 36; Conservative 12; Mismatches 34; Indels 26; Gaps 9;
```

```
OY 7 LEEVRLYCTPRN--FSVSIRELKRDTIF--WPGCLLVKRCGNCACCLHNCNECC 62
   : : : : : : : : : : : : : : : : : : : : : : : : : :
Db 44 IAEPMIAECKTRTEVEFIS--RLIDRTNANFLWMPCEVEVQRCSG---CC--NNRNVC 97
   : : : : : : : : : : : : : : : : : : : : : : : : : :
OY 63 VPSKVTKKHYEVQLRP---KTGV---RGLHSLTDVALEHHEECDC 103
   : : : : : : : : : : : : : : : : : : : : : : : : : :
Db 98 RPTQV-----QLRPQVRKIEIVRKKPIFKKAT-VTLEDHLAKC 136
   : : : : : : : : : : : : : : : : : : : : : : : : : :
```

```
Search completed: July 3, 2001, 10:29:37
Job time: 237 sec
```



CC and tissue repair in a subject. The products of the invention are useful  
CC for preparing medicaments for treating wounds such as dermal ulcers,  
CC pressure sores, venous sores, diabetic ulcers and burns and to promote  
CC skin graft growth, tissue repair, proliferation of new blood vessels,  
CC tissue regeneration and organ repair by promoting angiogenic activity or  
CC vascularization. This sequence represents the human VEGF-X protein  
CC isolated from clones 4 and 7 described in the method of the invention.  
XX  
SQ Sequence 345 AA:

Query Match 100.0%; Score 621; DB 21; Length 345;  
Best Local Similarity 100.0%; Pred. No. 4.7e-57;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 VVDNLNLTTEVRLYSCTPRNFSYSIREELKRTDTIFMPCGLLYKRCGNCACCLHNCNEC 60  
|||||  
DB 235 vvdnlntteevrlyscprnfsvsireelkrttdltfmpgcllykrcgncacclhncnc 294

OY 61 OCVPKSVTKKHYEVLDLRPKTGVRLKSLTDVLEHHEECDCVCGSTGCG 111  
|||||  
DB 295 qcvpskvtkkhyevldlrpkgtvrglkhsltdvalhheecdcvcrsgstg 345

RESULT 14  
AAB10644  
ID AAB10644 standard; Protein: 345 AA.  
XX  
AC AAB10644;

DT 19-JAN-2001 (first entry)  
XX  
XX Human VEGF-X protein #4.

XX VEGF-X: vascular endothelial growth factor; human; vulnery; cyostatic;  
XX antirheumatic; antiarthritic; antipsoriatic; antidiabetic; treatment;  
XX angiogenesis regulator; vascularization regulator; cancer; psoriasis;  
XX rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair;  
XX tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore;  
XX venous sore; diabetic ulcer; burns; skin graft growth.

OS Homo sapiens.  
XX  
PN WO200037641-A2.

PD 29-JUN-2000.

PF 21-DEC-1999; 99WO-US30503.

PR 22-DEC-1998; 98GB-0028377.

PR 18-MAR-1999; 99US-0124967.

PR 08-NOV-1999; 99US-0164131.

XX (JANC ) JANSSEN PHARM NV.

PI Gordon RD, Sprengel JJ, Von JR, Dijkmans JJH, Gosiowska A;

PI Dhanaraj SN, Xu J;

XX WPI: 2000-442669/38.

DR N-PSDB: AAA71990.

XX New vascular endothelial growth factor protein, useful for treating or  
PT preventing diseases associated with inappropriate angiogenesis activity  
PT such as cancer, rheumatoid arthritis, psoriasis and wounds -  
XX  
PS Disclosure: Fig 30B; 127pp; English.

XX This invention describes a novel vascular endothelial growth factor-X  
CC (VEGF-X) protein (Ia) and its encoding polynucleotide (IIa) which has  
CC vulnery, cyostatic, antirheumatic, antiarthritic, antipsoriatic and  
CC antidiabetic activity and acts as an angiogenesis and vascularization  
CC regulator. An antisense molecule of the invention is useful for treating  
CC or preventing cancer, rheumatoid arthritis, psoriasis and diabetic

CC retinopathy by inhibiting angiogenic activity or inappropriate  
CC vascularization including formation and proliferation of new blood  
CC vessels, growth and development of tissues, tissue regeneration and organ  
CC and tissue repair in a subject. The products of the invention are useful  
CC for preparing medicaments for treating wounds such as dermal ulcers,  
CC pressure sores, venous sores, diabetic ulcers and burns and to promote  
CC skin graft growth, tissue repair, proliferation of new blood vessels,  
CC tissue regeneration and organ repair by promoting angiogenic activity or  
CC vascularization. This sequence represents a human VEGF-X protein  
CC described in the method of the invention.  
XX  
SQ Sequence 345 AA:

Query Match 100.0%; Score 621; DB 21; Length 345;  
Best Local Similarity 100.0%; Pred. No. 4.7e-57;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 VVDNLNLTTEVRLYSCTPRNFSYSIREELKRTDTIFMPCGLLYKRCGNCACCLHNCNEC 60  
|||||  
DB 235 vvdnlntteevrlyscprnfsvsireelkrttdltfmpgcllykrcgncacclhncnc 294

OY 61 OCVPKSVTKKHYEVLDLRPKTGVRLKSLTDVLEHHEECDCVCGSTGCG 111  
|||||  
DB 295 qcvpskvtkkhyevldlrpkgtvrglkhsltdvalhheecdcvcrsgstg 345

RESULT 15  
AAB10650  
ID AAB10650 standard; Protein: 345 AA.  
XX  
AC AAB10650;

DT 19-JAN-2001 (first entry)  
XX  
XX Human 990126vegX protein.

XX VEGF-X: vascular endothelial growth factor; human; vulnery; cyostatic;  
XX antirheumatic; antiarthritic; antipsoriatic; antidiabetic; treatment;  
XX angiogenesis regulator; vascularization regulator; cancer; psoriasis;  
XX rheumatoid arthritis; diabetic retinopathy; blood vessel; organ repair;  
XX tissue regeneration; tissue repair; wound; dermal ulcer; pressure sore;  
XX venous sore; diabetic ulcer; burns; skin graft growth.

OS Homo sapiens.  
XX  
PN WO200037641-A2.

PD 29-JUN-2000.

PF 21-DEC-1999; 99WO-US30503.

PR 22-DEC-1998; 98GB-0028377.

PR 18-MAR-1999; 99US-0124967.

PR 08-NOV-1999; 99US-0164131.

XX (JANC ) JANSSEN PHARM NV.

PI Gordon RD, Sprengel JJ, Von JR, Dijkmans JJH, Gosiowska A;

PI Dhanaraj SN, Xu J;

XX WPI: 2000-442669/38.

XX New vascular endothelial growth factor protein, useful for treating or  
PT preventing diseases associated with inappropriate angiogenesis activity  
PT such as cancer, rheumatoid arthritis, psoriasis and wounds -  
XX  
PS Disclosure: Fig 11; 127pp; English.

XX This invention describes a novel vascular endothelial growth factor-X  
CC (VEGF-X) protein (Ia) and its encoding polynucleotide (IIa) which has  
CC vulnery, cyostatic, antirheumatic, antiarthritic, antipsoriatic and  
CC antidiabetic activity and acts as an angiogenesis and vascularization

CC regulator. An antisense molecule of the invention is useful for treating  
CC or preventing cancer, rheumatoid arthritis, psoriasis and diabetic  
CC retinopathy by inhibiting angiogenic activity or inappropriate  
CC vascularization including formation and proliferation of new blood  
CC vessels, growth and development of tissues, tissue regeneration and organ  
CC and tissue repair in a subject. The products of the invention are useful  
CC for preparing medicaments for treating wounds such as dermal ulcers,  
CC pressure sores, venous sores, diabetic ulcers and burns and to promote  
CC skin graft growth, tissue repair, proliferation of new blood vessels,  
CC tissue regeneration and organ repair by promoting angiogenic activity or  
CC vascularization. This sequence represents the human 990126veg protein  
CC used to illustrate the method of the invention.

XX  
SO Sequence 345 AA:

Query Match 100.0%; Score 621; DB 21: Length 345;

Best Local Similarity 100.0%; Pred. NO. 4.7e-57;

Matches 111: Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 VVDLNLTEEVRLYSCTPRNFSVSIREELKRTDTTFMPGCLVRCGNACACLNHCNEC 60

Db 235 vvdlnlleevrlyscprnfsvsireelkrtdtlfpqcllvrcgncacclhncnc 294

QY 61 QCVPSKVTAKTHIEVQLRPKTVGRLHKSSTDVALEHHECDCCVCRGSTGG 111

Db 295 qcvpskvtkkyhevlqrpktgvrghksltdvalehnecdccvcrgstg 345

Search completed: July 3, 2001, 10:29:13  
Job time: 313 sec



Db 46 CKPRDTVYVYGEESTINQYNRCTVYKRCSS--CCMGDQICVAVETRTTVSV 102  
OY 75 LQLRPKTVGR-GLHKSJLDVALEHHEBCDCRGST 109  
Db 103 TGVSSSGTNSGVSTNLRISVTEHTKDCIGRTTT 138

RESULT 2  
VEGF\_CAVPO STANDARD: PRT: 164 AA.

AC P26617;  
DT 01-AUG-1992 (Rel. 23, Created)  
DT 01-AUG-1992 (Rel. 23, Last sequence update)  
DT 01-OCT-1996 (Rel. 34, Last annotation update)  
DE VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VRF).  
GN VEGF.  
OS Cavia porcellus (Guinea pig).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Hystriognathii; Caviidae; Cavia.  
OX NCBI\_Taxid=10141;  
RN (1)  
RP SEQUENCE FROM N.A.  
RA Berse B.;  
RL Submitted (XXX-1992) to the EMBL/GenBank/DBJ databases.  
CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY.  
CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY).  
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
CC -----  
CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL Outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
CC -----  
DR EMBL: M84230; AAA37057.1; .  
DR HSSP: P15692; 2VGH.  
DR InterPro: IPR000072; .  
DR Pfam: PF00341; PDGF\_1; .  
DR PROSITE: PS00249; PDGF\_1; 1.  
DR PROSITE: PS50278; PDGF\_2; 1.  
KW Mitogen; Growth factor; Glycoprotein.  
FT DISULFID 25 67 BY SIMILARITY.  
FT DISULFID 56 101 BY SIMILARITY.  
FT DISULFID 60 103 BY SIMILARITY.  
FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).  
FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).  
FT CARBOHYD 74 74 N-LINKED (GLCNAC... ) (POTENTIAL).  
SQ SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DCA4 CRC64;

Query Match 17.5%: Score 108.5; DB 1; Length 164;  
Best Local Similarity 26.5%: Pred. No. 0.00016;  
Matches 27; Conservative 21; Mismatches 37; Indels 17; Gaps 5;

OY 9 EEVLYS-----CTPRNFVSISIREEL-KRTDTIFMPGCLLVKRCGNCACCLLNCHNECQ 61  
Db 12 EEVYFMQVYKRSYCRPIEMLVDFQETPELEYTFKPSCVPLMRCGC---CC--NDESLE 66

OY 62 CVPKSVTKKYHEVQLRPRKTVGRGLHKSJLDVALEHHEBCDC 103  
Db 67 CVPTEEFNITFMQIRIKRPHQC-----OHIGMSFLQSKSCC 103

RESULT 3

PDGF\_RABIT STANDARD: PRT: 213 AA.  
AC P34007;  
DT 01-FEB-1994 (Rel. 28, Created)  
DT 01-FEB-1994 (Rel. 28, Last sequence update)  
DT 01-OCT-2000 (Rel. 40, Last annotation update)  
DE PLATELET-DERIVED GROWTH FACTOR, A CHAIN PRECURSOR (PDGF A-CHAIN) (PDGF-1).  
GN PDGFA.  
OS Oryctolagus cuniculus (Rabbit).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.  
OX NCBI\_Taxid=9986;  
RN (1)  
RP SEQUENCE FROM N.A.  
RC TISSUE-Vascular smooth muscle;  
RX MEDLINE=92246970; PubMed=1575749;  
RA Nakamura K.-I., Nishimura H., Kuro-O M., Takewaki S.-I., Iwase M., Ohkubo A., Yazaki Y., Nagai R.;  
RT "Identification of three types of PDGF-A chain gene transcripts in rabbit vascular smooth muscle and their regulated expression during development and by angiotensin II";  
RL Biochem. Biophys. Res. Commun. 184:811-818(1992).  
CC -1- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
CC -1- SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN TRANSFORMATION PROCESSES.  
CC -1- ALTERNATIVE PRODUCTS: 3 ISOFORMS; A1, A2 (SHOWN HERE) AND A3; ARE PRODUCED BY ALTERNATIVE SPLICING.  
CC -1- INDUCTION: THE FORM A3 IS SELECTIVELY INDUCED BY ANGIOTENSIN II.  
CC -1- MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE PDGF RECEPTOR.  
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
CC -----  
DR PIR: JS0735; JS0735.  
DR PIR: PS0387; PS0387.  
DR PIR: JN0248; JN0248.  
DR HSSP: P01127; 1PDG.  
DR InterPro: IPR000072; .  
DR InterPro: IPR002400; .  
DR Pfam: PF00341; PDGF\_1; .  
DR PRINTS: PR00438; GEGYSKNOT.  
DR PROSITE: PS00249; PDGF\_1; 1.  
DR PROSITE: PS50278; PDGF\_2; 1.  
KW Glycoprotein; Mitogen; Growth factor; Platelet; Alternative splicing; Signal.  
FT SIGNAL 1 20  
FT PROPEP 21 89 BY SIMILARITY.  
FT CHAIN 90 213 PLATELET-DERIVED GROWTH FACTOR, A CHAIN.  
FT SITE 158 162 RECEPTOR BINDING SITE (POTENTIAL).  
FT DISULFID 131 179 BY SIMILARITY.  
FT DISULFID 135 181 BY SIMILARITY.  
FT DISULFID 125 125 INTERCHAIN (BY SIMILARITY).  
FT DISULFID 134 134 INTERCHAIN (BY SIMILARITY).  
FT CARBOHYD 136 136 N-LINKED (GLCNAC... ) (POTENTIAL).  
FT CARBOHYD 136 136 N-LINKED (GLCNAC... ) (POTENTIAL).  
FT VARSPLIC 196 198 GRR -> DVR (IN ISOFORM A1).  
FT VARSPLIC 199 213 MISSING (IN ISOFORM A1).  
FT VARSPLIC 197 213 RRRSGSKRRKRLRFT -> TLLPAPGVHPQGCIRAHND  
SQ SEQUENCE 213 AA; 24005 MW; 28A9B7E50487F4C5 CRC64;

Query Match 17.4%: Score 108; DB 1; Length 213;  
Best Local Similarity 32.3%: Pred. No. 0.00023;  
Matches 32; Conservative 14; Mismatches 41; Indels 12; Gaps 6;

OY 16 CTPRNFVSISIREELKRTDTIF--MPGCLLVKRCGNCACCLLNCHNECQCPKSVTKKYH 72  
Db 98 CKRTVYIETIPRQVDPSTANFLIPPCVEYKRCGTC---CC--NTSSVYKQPSRVR---HH 149

OY 73 EVIQLRPKGVRLHSLTDVALEHHECDVCVCGSTGC 111  
 DB 150 RSVKVAKEVYVRKKPK-LKEQVRLHEHLECCACASSAG 187

RESULT 4  
 ID VEGF\_HUMAN STANDARD: PRT: 188 AA.  
 AC P49765;  
 DT 01-OCT-1996 (Rel. 34, Last sequence update)  
 DT 01-OCT-1996 (Rel. 34, Last sequence update)  
 DT 01-OCT-2000 (Rel. 40, Last annotation update)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR B PRECURSOR (VEGF-B) (VEGF RELATED FACTOR).  
 GN VEGFB OR VRF.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
 OX NCBI\_TaxID=9606;  
 RN (1)  
 RP MEDLINE-96197355; PubMed-8637916;  
 RX Olofsson B., Pajusola K., Kaipainen A., von Euler G., Joukov V., Sakela O., Orpana A., Petersson R.F., Alltalo K., Eriksson U.;  
 RA "Vascular endothelial growth factor B, a novel growth factor for endothelial cells."  
 RT Proc. Natl. Acad. Sci. U.S.A. 93:2576-2581(1996).  
 RN (2)  
 RP MEDLINE-97077124; PubMed-8919691;  
 RX Grimmond S., Lagercrantz J., Drinkwater C., Silins G., Townson S., Pollock P., Gotley D., Carson E., Rakar S., Nordenskjold M., Ward L., Hayward N., Weber G.;  
 RA "Cloning and characterization of a novel human gene related to vascular endothelial growth factor."  
 RT Genome Res. 6:124-131(1996).  
 CC -1- FUNCTION: GROWTH FACTOR FOR ENDOTHELIAL CELLS. BINDS HEPARIN.  
 CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED. CAN ALSO FORM HETERODIMER WITH VEGF.  
 CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN.  
 CC -1- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXCEPT LIVER.  
 CC -1- HIGHEST LEVELS FOUND IN HEART, SKELETAL MUSCLE AND PANCREAS.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
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 CC -----  
 DR EMBL: U48801; AAB06274.1; -  
 DR EMBL: U43369; AAA91463.1; -  
 DR HSSP: P15692; 1VFP.  
 DR MIM: 601398; -  
 DR InterPro: IPR000072; -  
 DR Pfam: PF00341; PDGF\_1; 1.  
 DR PROSITE: PS00249; PDGF\_1; 1.  
 DR PROSITE: PS50278; PDGF\_2; 1.  
 CC M10gen: Growth factor; Signal; Heparin-binding.  
 FT SIGNAL 1 21  
 FT CHAIN 22 188 VASCULAR ENDOTHELIAL GROWTH FACTOR B.  
 SO SEQUENCE 188 AA; 21261 MW; F04654D5A3727194 CRC64;

Query Match 16.9%; Score 105; DB 1; Length 188;  
 Best local Similarity 30.0%; Pred. No. 0.00042;  
 Matches 27; Conservative 17; Mismatches 34; Indels 12; Gaps 4;  
 OY 15 SCPRPNSVIRELKR-RT-DTTPGCLLVKRGCGNCCALHNCOCQPSVYTKKYE 73  
 DB 150 RSVKVAKEVYVRKKPK-LKEQVRLHEHLECCACASSAG 187

DB 46 TQPREVVPLVLELNGTVAKOLVPSCVTVORCG-CCPD-DGLECVPTGQHOVRMO 100  
 OY 74 VIQLRPKGVRLHSLTDVALEHHECDVCVCGSTGC 111  
 DB 101 ILMIRPVS-----SOLGKSLFEHSQCEC 124

RESULT 5  
 ID PDGF\_XENLA STANDARD: PRT: 226 AA.  
 AC P13698;  
 DT 01-JAN-1990 (Rel. 13, Created)  
 DT 01-JAN-1990 (Rel. 13, Last sequence update)  
 DT 01-OCT-2000 (Rel. 40, Last annotation update)  
 DE PLATELET-DERIVED GROWTH FACTOR, A CHAIN PRECURSOR (PDGF A-CHAIN) (PDGFA).  
 GN Xenopus laevis (African clawed frog).  
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;  
 OC Xenopodinae; Xenopus.  
 OX NCBI\_TaxID=8355;  
 RN (1)  
 RP MEDLINE-90175018; PubMed-2308861;  
 RX Beljck B.E., Li D.Y., Denel T.F.;  
 RA "Nucleotide sequence of a cDNA clone of Xenopus platelet-derived growth factor A-chain."  
 RT Nucleic Acids Res. 18:680-680(1990).  
 CC -1- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
 CC -1- SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN TRANSFORMATION PROCESSES.  
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS: A LONG FORM (SHOWN HERE) AND A SHORT FORM. ARE PRODUCED BY ALTERNATIVE SPLICING. THE LONG FORM CONTAINS A BASIC INSERT WHICH ACTS AS A CELL RETENTION SIGNAL.  
 CC -1- MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE PDGF RECEPTOR.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
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 CC -----  
 DR EMBL: M23237; AAA49927.1; -  
 DR EMBL: M23238; AAA49928.1; -  
 DR EMBL: X17545; CAA35583.1; -  
 DR PIR: S08220; S08220.  
 DR HSSP: P01127; 1PGC.  
 DR InterPro: IPR000072; -  
 DR Pfam: PF00341; PDGF\_1; 1.  
 DR PROSITE: PS00249; PDGF\_1; 1.  
 DR PROSITE: PS50278; PDGF\_2; 1.  
 CC Glycoprotein; Mitogen; Growth factor; Platelet; Alternative splicing; Signal.



RX MEDLINE-92283833: PubMed-1317862;  
 RA Andersson M., Oestman A., Backstrom G., Hellman U.,  
 RA George-Nascimento C., Westmark B., Heldin C.-H.;  
 RT "Assignment of interchain disulfide bonds in platelet-derived growth  
 RT factor (PDGF) and evidence for agonist activity of monomeric PDGF";  
 RL J. Biol. Chem. 267:11260-11266(1992).  
 RN (15)  
 RP X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS).  
 RX MEDLINE-93010987: PubMed-1396586;  
 RA Oefner C., D'Arcy A., Winkler F.K., Eggmann B., Hosang M.;  
 RT "Crystal structure of human platelet-derived growth factor BB";  
 RL EMBL J. 11:3921-3926(1992).  
 CC -1- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR  
 CC CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS  
 CC AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS  
 CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE  
 CC IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
 CC -1- SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  
 CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN  
 CC TRANSFORMATION PROCESSES.  
 CC -1- PHARMACEUTICAL: AVAILABLE UNDER THE NAME REGRANEX (ORTHO-MCNEIL).  
 CC USED TO PROMOTE HEALING IN DIABETIC NEUROPATHIC FOOT ULCERS.  
 CC -1- MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE  
 CC PDGF RECEPTOR.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 CC -1- DATABASE: NAME-R&D systems' cytokine source book;  
 CC WWW="http://www.rndsystems.com/cyl-cat/pdgr.html".  
 CC -1- DATABASE: NAME-Regranex; NOTE-Clinical information on Regranex:  
 CC WWW="http://www.regranex.com/".  
 CC -----  
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 CC or send an email to license@isb-sib.ch).  
 CC -----  
 DR EMBL: K01401: AAA60552.1: -  
 DR EMBL: K01918: AAA60552.1: JOINED.  
 DR EMBL: J00121: AAA60552.1: JOINED.  
 DR EMBL: K01398: AAA60552.1: JOINED.  
 DR EMBL: K01399: AAA60552.1: JOINED.  
 DR EMBL: K01400: AAA60552.1: JOINED.  
 DR EMBL: X02811: CAA26579.1: -  
 DR EMBL: M12783: AAA60553.1: -  
 DR EMBL: X02744: CAA26524.1: -  
 DR EMBL: K01917: AAA8793.1: -  
 DR EMBL: K01913: AAA8793.1: JOINED.  
 DR EMBL: K01915: AAA8793.1: JOINED.  
 DR EMBL: K01916: AAA8793.1: JOINED.  
 DR EMBL: X03702: CAA27333.1: -  
 DR EMBL: Z81010: CAB02635.1: -  
 DR EMBL: X00561: CAA25228.1: -  
 DR EMBL: X00561: CAA25229.1: -  
 DR EMBL: X98706: CAA67262.1: -  
 DR PIR: A94276: PFHUG2.  
 DR PDB: 1PDC: 31-JAN-94.  
 DR MIM: 190040: -  
 DR InterPro: IPR000072: -  
 DR InterPro: IPR002400: -  
 DR Pfam: PF00341: PDGF\_1.  
 DR PRINTS: PR00438: GRCYSKNOT.  
 DR PROSITE: PS00249: PDGF\_1; 1.  
 DR PROSITE: PS00278: PDGF\_2; 1.  
 KM Mitogen; Growth factor; Proto-oncogene; Platelet; Signal;  
 KW Pharmaceutical; 3D-structure.  
 FT SIGNAL 1 20  
 FT PROPEP 21 81  
 FT CHAIN 82 190 PLATELET-DERIVED GROWTH FACTOR, B CHAIN.  
 FT PROPEP 191 241  
 FT SITE 108 108 INVOLVED IN RECEPTOR BINDING.

FT SITE 111 111 INVOLVED IN RECEPTOR BINDING.  
 FT DISULFID 97 141  
 FT DISULFID 130 178  
 FT DISULFID 134 180  
 FT DISULFID 124 124  
 FT DISULFID 133 133  
 FT DISULFID 21 21  
 FT CONFLICT 101 101  
 FT CONFLICT 105 105  
 FT CONFLICT 107 107  
 FT STRAND 90 91  
 FT STRAND 94 94  
 Query Match 16.9%; Score 105; DB 1; Length 241;  
 Best Local Similarity 33.3%; Pred. No. 0.00054;  
 Matches 36; Conservative 12; Mismatches 34; Indels 26; Gaps 9;  
 Db 63 VPSKYTKKYEVLQLRP---KRGV---RLHSLTPVALHHEECDC 103  
 142 RPTQV-----QLRPVQYRKIEYRKPRFKAT-VTLEDHLAKC 180  
 RESULT 7  
 ID PDGF\_FELCA STANDARD; PRT: 245 AA.  
 AC P12919;  
 DT 01-OCT-1989 (Rel. 12, Created)  
 DT 01-OCT-1989 (Rel. 12, Last sequence update)  
 DT 01-OCT-2000 (Rel. 40, Last annotation update)  
 DE PLATELET-DERIVED GROWTH FACTOR, B CHAIN PRECURSOR (PDGF-B-CHAIN)  
 DE (PDGFB) (C-SIS) (PDGF-2).  
 GN PDGFB OR SIS.  
 OS Fells silvestris catus (Cat).  
 OC Eukaryota; Metazoa; Chordata; Craniala; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Fells.  
 OX NCBI\_TaxID=9685;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE-87146463: PubMed-3822831;  
 RA van den Ouweland A.M.W., van Groningen J.J.M., Schalken J.A.,  
 RA van Neck H.W., Bloemers H.P.J., van de Ven W.J.M.;  
 RT "Genetic organization of the c-sis transcription unit";  
 RL Nucleic Acids Res. 15:959-970(1987).  
 RN [2]  
 RP REVISIONS.  
 RA van den Ouweland A.M.W.;  
 RL Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.  
 CC -1- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR  
 CC CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS  
 CC AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS  
 CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE  
 CC IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
 CC -1- SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  
 CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN  
 CC TRANSFORMATION PROCESSES.  
 CC -1- MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE  
 CC PDGF RECEPTOR.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 CC -----  
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 CC or send an email to license@isb-sib.ch).  
 CC -----  
 DR EMBL: X05112: CAA28758.1: ALT-SEQ.  
 DR PIR: A26402: TVCTSS.

DR HSSP; P01127; 1PDG.  
 DR InterPro: IPR000072; -  
 DR InterPro: IPR002400; -  
 DR Pfam: PF00341; PDGF\_1;  
 DR PRINTS: PR00438; GRCYSKNOT.  
 DR PROSITE: PS00249; PDGF\_1; 1.  
 DR PROSITE: PS50278; PDGF\_2; 1.  
 KM Mitogen: Growth factor; Proto-oncogene; Platelet; signal.  
 FT SIGNAL 1 20  
 FT PROPEP 21 81  
 FT CHAIN 82 194 PLATELET-DERIVED GROWTH FACTOR, B CHAIN.  
 FT PROPEP 195 245  
 FT DISULFID 101 145 BY SIMILARITY.  
 FT DISULFID 134 182 BY SIMILARITY.  
 FT DISULFID 138 184 BY SIMILARITY.  
 FT DISULFID 128 128 INTERCHAIN (BY SIMILARITY).  
 FT DISULFID 137 137 INTERCHAIN (BY SIMILARITY).  
 SQ SEQUENCE 243 AA; 27787 MW; E7715291D9837512 CRC64;

Query Match 16.9%; Score 105; DB 1; Length 245;  
 Best Local Similarity 33.0%; Pred. No. 0.00055;  
 Matches 35; Conservative 13; Mismatches 36; Indels 22; Gaps 8;

OY 7 LVEEVLRYSCPTRN--FSVSTIREELKRTDTIF--WPGCLLVKRCGCGACCLHNCNECQC 62  
 DB 92 VAEPMAIMECKRTREVEFS--RLIDFTNANFLWPCVEVQRCG---CC--NNRNVCQ 145  
 OY 63 VPSVTKTKY-----HEVQLRPKGVRLHKSITDVALEHHEEDCC 103  
 DB 146 RPTOVQLRVLYOVRIEYKRKP-----VFKKAT-VTLEHDLACKC 184

RESULT 8  
 VEGF\_HUMAN STANDARD; PRT: 215 AA.  
 AC P15692;  
 ID 01-APR-1990 (Rel. 14, Created)  
 DT 01-APR-1990 (Rel. 14, Last sequence update)  
 DT 15-JUL-1999 (Rel. 38, Last annotation update)  
 DE VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR PERMEABILITY FACTOR) (VPF).  
 DE VEGF OR VEGFA.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=90069608; PubMed=2479986;  
 RA Leung D.W., Cachianes G., Kiang W.-J., Goeddel D.V., Ferrara N.;  
 RT "Vascular endothelial growth factor is a secreted angiogenic mitogen.";  
 RL Science 246:1306-1309(1989).  
 RN [2]  
 RP SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.  
 RX MEDLINE=90069609; PubMed=2479987;  
 RA Keck P.J., Hauser S.D., Krivi G., Sanzo K., Warren T., Feder J.,  
 RA Connolly D.T.;  
 RT "Vascular permeability factor, an endothelial cell mitogen related to PDGF.";  
 RL Science 246:1309-1312(1989).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=91268072; PubMed=1711045;  
 RA Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D.,  
 RA Fiddes J.C., Abraham J.A.;  
 RT "The human gene for vascular endothelial growth factor. Multiple protein forms are encoded through alternative exon splicing.";  
 RL J. Biol. Chem. 266:11947-11954(1991).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=92231879; PubMed=1567395;

RA Weindel K., Marne D., Welch H.A.;  
 RT "AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial growth factor.";  
 RL Biochem. Biophys. Res. Commun. 183:1167-1174(1992).  
 RN [5]  
 RP PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.  
 RX MEDLINE=90062112; PubMed=2584205;  
 RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monsell R.,  
 RA Siegel N., Haymore B.L., Leimgruber R., Feder J.;  
 RT "Human vascular permeability factor. Isolation from U937 cells.";  
 RL Eur. J. Biochem. 264:20017-20024(1989).  
 RN [6]  
 RP SEQUENCE OF 27-41.  
 RX MEDLINE=93145946; PubMed=7678805;  
 RA Fleiblich B.L., Jaeger B., Schoellman C., Weindel K., Witting J.,  
 RA Kochs G., Marne D., Hug H., Welch H.A.;  
 RT "Synthesis and assembly of functionally active human vascular endothelial growth factor homodimers in insect cells.";  
 RL Eur. J. Biochem. 211:19-26(1993).  
 RN [7]  
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.  
 RX MEDLINE=97352774; PubMed=9207067;  
 RA Muller Y.A., Li B., Christinger H.W., Wells J.A., Cunningham B.C.,  
 RA de Vos A.M.;  
 RT "Vascular endothelial growth factor: crystal structure and functional mapping of the kinase domain receptor binding site.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).  
 RN [8]  
 RP X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.  
 RX MEDLINE=98035455; PubMed=9351807;  
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.;  
 RT "The crystal structure of vascular endothelial growth factor (VEGF) refined to 1.93-A resolution: multiple copy flexibility and receptor binding.";  
 RL Structure 5:1325-1338(1997).  
 RN [9]  
 RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.  
 RX MEDLINE=99119204; PubMed=9922142;  
 RA Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C.,  
 RA Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.;  
 RT "Crystal structure of the complex between VEGF and a receptor-blocking peptide.";  
 RL Biochemistry 37:17765-17772(1998).  
 RN [10]  
 RP STRUCTURE BY NMR OF 34-135.  
 RX MEDLINE=97477915; PubMed=9336848;  
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,  
 RA Starovasnik M.A.;  
 RT "1H, 13C, and 15N backbone assignment and secondary structure of the receptor-binding domain of vascular endothelial growth factor.";  
 RL Protein Sci. 6:2250-2260(1997).  
 RN [11]  
 RP STRUCTURE BY NMR OF 137-215.  
 RX MEDLINE=98298440; PubMed=9634701;  
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,  
 RA Starovasnik M.A.;  
 RT "Solution structure of the heparin-binding domain of vascular endothelial growth factor.";  
 RL Structure 6:637-648(1998).  
 CC -!- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR PERMEABILITY.  
 CC -!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.  
 CC -!- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY SIMILARITY).  
 CC -!- ALTERNATIVE PRODUCTS: FOUR FORMS OF VEGF ARE PRODUCED BY ALTERNATIVE SPLICING OF THE SAME GENE (VEGF-121, VEGF-165, VEGF-189 AND VEGF-215).  
 CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 CC -----  
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DR EMBL: M32977; AAA35789.1; -;  
DR EMBL: M27281; AAA36807.1; -;  
DR EMBL: M63978; AAA36804.1; -;  
DR EMBL: M63971; AAA36804.1; JOINED.  
DR EMBL: M63972; AAA36804.1; JOINED.  
DR EMBL: M63973; AAA36804.1; JOINED.  
DR EMBL: M63974; AAA36804.1; JOINED.  
DR EMBL: M63975; AAA36804.1; JOINED.  
DR EMBL: M63976; AAA36804.1; JOINED.  
DR EMBL: M63977; AAA36804.1; JOINED.  
DR EMBL: M63978; AAA36804.1; JOINED.  
DR PIR: A34492; A34492.  
DR PIR: A40079; A40079.  
DR PIR: A40080; A40080.  
DR PIR: A40454; A40454.  
DR PIR: B40454; B40454.  
DR PIR: C40454; C40454.  
DR PIR: J01463; J01463.  
DR PIR: J01464; J01464.  
DR PIR: S17348; S17348.  
DR PDB: 1VGH; 08-APR-98.  
DR PDB: 2VGH; 08-APR-98.  
DR PDB: 1VPE; 08-APR-98.  
DR PDB: 2VPE; 29-JUL-98.  
DR PDB: 1VPP; 23-FEB-99.  
DR MIM: 192240; -;  
DR InterPro: IPR000072; -;  
DR Pfam: PF00341; PDGF\_1;  
DR PROSITE: PS00249; PDGF\_1; 1.  
DR PROSITE: PS50278; PDGF\_2; 1.  
KM MitoGen; Growth factor; Glycoprotein; Alternative splicing; Signal;  
KM 3D-structure.  
FT SIGNAL 1 26  
FT CHAIN 27 215 VASCULAR ENDOTHELIAL GROWTH FACTOR.  
FT DISULFID 52 94  
FT DISULFID 83 128  
FT DISULFID 87 130  
FT DISULFID 77 77 INTERCHAIN.  
FT DISULFID 86 86 INTERCHAIN.  
FT CARBOHYD 101 101 N-LINKED (GLCNAC...)  
FT VARSPLIC 141 141 K->N (IN ISOFORM VEGF-121 AND ISOFORM  
VEGF-165).  
FT VARSPLIC 142 165 MISSING (IN ISOFORM VEGF-165).  
FT VARSPLIC 142 209 MISSING (IN ISOFORM VEGF-121).  
SQ SEQUENCE 215 AA: 25173 MW: 789759AD5871FF33 CRC64;

Query Match 16.8%; Score 104.5; DB 1; Length 215;

Best Local Similarity 27.0%; Pred. No. 0.00054;

Matches 24; Conservative 21; Mismatches 33; Indels 11; Gaps 4;

QY 16 CTPNFSVSIREL-KRTDTIFWPGCLLVKRCGNCACCLHNCCECCVPSKYTKKHEV 74  
DB 52 CHPLETLDVDFQEVPEDEYIFKSPCVLPMKCG---CC--NDEGLCVPTESNITMOT 106  
QY 75 LQLRKTVGRGLKSLTDLVALEHHEECDC 103  
DB 107 MRIRPHOG-----OHIGENSLQHNKCEC 130

RESULT 9  
PDGA\_RAT  
AC PDGA\_RAT STANDARD; PRT; 204 AA.  
ID P28576;  
DT 01-DEC-1992 (Rel. 24, Created)  
DT 01-FEB-1994 (Rel. 28, Last sequence update)  
DT 01-OCT-2000 (Rel. 40, Last annotation update)

DE PLATELET-DERIVED GROWTH FACTOR, A CHAIN PRECURSOR (PDGF A-CHAIN)  
DE (PDGF-1).  
GN PDGFA OR RPAL.  
OS Rattus norvegicus (Rat).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
OX NCBI\_TaxID=10116;  
RN [1]  
RP SEQUENCE OF 8-204 FROM N.A.  
RX MEDLINE=93305723; PubMed=8318539;  
RA Herron B., Weyer K.A., Rouge M., Loetscher P., Pech M.;  
RT "conservation in sequence and affinity of human and rodent PDGF  
ligands and receptors.";  
RL Biochim. Biophys. Acta 1173:294-302(1993).  
RN [2]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=93191115; PubMed=8447423;  
RA Katayose D., Ohe M., Yamuchi K., Ogata M., Shirato K., Fujita H.,  
RA Shibahara S., Takishima T.;  
RT "Increased expression of PDGF A- and B-chain genes in rat lungs with  
hypoxic pulmonary hypertension.";  
RL Am. J. Physiol. 264:L100-L106(1993).  
RN [3]  
RP SEQUENCE FROM N.A. (SHORT FORM).  
RA Xia Y., Feng L., Tang W.W., Wilson C.B.;  
RT "Cloning and expression of rat platelet-derived growth factor  
A-chain.";  
RL J. Am. Soc. Nephrol. 3:622-622(1992).  
RN [4]  
RP SEQUENCE OF 58-196 FROM N.A. (SHORT FORM).  
RX STRAIN=FISCHER 344; TISSUE=Smooth muscle;  
MEDLINE=93225589; PubMed=8469035;  
RA Szabo P., Weksler D., Whittington E., Weksler B.B.;  
RT "The age-dependent proliferation of rat aortic smooth muscle cells is  
independent of differential splicing of PDGF A-chain mRNA.";  
RL Mech. Ageing Dev. 67:79-89(1993).  
RN [5]  
RP FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR  
CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS  
AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS  
RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE  
IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
CC IN SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  
AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN  
TRANSFORMATION PROCESSES.  
CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS: A LONG FORM (SHOWN HERE) AND A  
SHORT FORM. ARE PRODUCED BY ALTERNATIVE SPLICING. THE LONG FORM  
CONTRAINS A BASIC INSERT WHICH ACTS AS A CELL RETENTION SIGNAL.  
CC -1- DEVELOPMENTAL STAGE: IN KIDNEY EPITHELIAL TISSUES, THE SHORTER  
FORM PREDOMINATES IN YOUNG (1 DAY OLD) RATS WHILE THE LONGER FORM  
BECOMES MORE PREVALENT DURING AGING.  
CC -1- MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE  
PDGF RECEPTOR.  
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
CC -----  
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CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

DR PROSITE: PS50278; PDGF\_2; 1.  
 KW Glycoprotein; Mitogen; Growth factor; Platelet; Alternative splicing;  
 FT SIGNAL 1 20 BY SIMILARITY.  
 FT PROPEP 21 85 REMOVED BY PROTEOLYSIS.  
 FT CHAIN 86 204 PLATELET-DERIVED GROWTH FACTOR, A CHAIN.  
 FT SITE 158 162 RECEPTOR BINDING SITE (POTENTIAL).  
 FT DISULFID 96 140 BY SIMILARITY.  
 FT DISULFID 129 177 BY SIMILARITY.  
 FT DISULFID 133 179 BY SIMILARITY.  
 FT DISULFID 123 123 INTERCHAIN (BY SIMILARITY).  
 FT DISULFID 132 132 INTERCHAIN (BY SIMILARITY).  
 FT CARBOHYD 134 134 N-LINKED (GLCNAC. . .) (BY SIMILARITY).  
 FT VARSPLIC 194 196 GRR -> DVR (IN SHORT ISOFORM).  
 FT VARSPLIC 197 204 MISSING (IN SHORT ISOFORM).  
 FT CONFLICT 85 111 KRISLEATPAVCKTRVTEIPRSQVD -> REVLKRKFPQ  
 FT CONFLICT 119 119 FARGRSTRYLCAKMT (IN REF. 2).  
 FT CONFLICT 119 119 I -> T (IN REF. 3).  
 SQ SEQUENCE 204 AA: 23307 MW: 54135748667420 CRC64:  
 Query Match 16.7%; Score 104; DB 1; Length 204;  
 Best Local Similarity 34.0%; Pred. No. 0.00058;  
 Matches 32; Conservative 12; Mismatches 34; Indels 16; Gaps 6;  
 OY 16 CTRPNFVSST-REELKRTDTIF--WPGCLLYKRCGNCACCLHNCNCOCPVSKV---TK 69  
 DB 96 CKTRVTEIPRSQVDPTSANFLIMPCEVVRCTG---CC--NTSSVKCOPSRVHRSV 150  
 OY 70 KYHEVLQLRPTKGVRLKSLTDLVLEHHEBCDC 103  
 DB 151 KVAKEVYVRKKRKEV-----QVRLLEHLBCAC 179  
 RESULT 10  
 PDGA\_HUMAN STANDARD: PRT: 211 AA.  
 AC P04085.  
 DT 01-NOV-1986 (Rel. 03, Created)  
 DT 01-NOV-1986 (Rel. 03, Last sequence update)  
 DT 01-OCT-2000 (Rel. 40, Last annotation update)  
 DE PLATELET-DERIVED GROWTH FACTOR, A CHAIN PRECURSOR (PDGF A-CHAIN)  
 DE (PDGF-1).  
 GN PDGFA.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
 OC NCBI\_TaxID=9606;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RP MEDLINE=88144463; PubMed=3422746;  
 RA Bonthron D.T., Morton C.C., Orkin S.H., Collins T.;  
 RA "Platelet-derived growth factor A chain: gene structure, chromosomal  
 RA location, and basis for alternative mRNA splicing";  
 RA Proc. Natl. Acad. Sci. U.S.A. 85:1492-1496(1988).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RP MEDLINE=88174698; PubMed=2832727;  
 RA Rorsman F., Bywater M., Knott T.J., Scott J., Betscholtz C.;  
 RA "Structural characterization of the human platelet-derived growth  
 RA factor A-chain cDNA and gene: alternative exon usage predicts two  
 RA different precursor proteins";  
 RA Mol. Cell. Biol. 8:571-577(1988).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RP MEDLINE=86203630; PubMed=3754619;  
 RA Besholtz C., Johansson A., Heldin C.H., Westermarck B., Lind P.,  
 RA Ureda M.S., Eddy R., Shows T.B., Philpott K., Mellor A.L., Knott T.J.,  
 RA Scott J.;  
 RA "cDNA sequence and chromosomal localization of human platelet-derived  
 RA growth factor A-chain and its expression in tumour cell lines";  
 RA Nature 320:695-699(1986).  
 RN [4]

RP SEQUENCE FROM N.A.  
 RX MEDLINE=88030061; PubMed=3666150;  
 RA Hoppe J., Schumacher L., Eichner W., Welch H.A.;  
 RA "The long 3'-untranslated regions of the PDGF-A and -B mRNAs are only  
 RA distantly related";  
 RA FEBS Lett. 223:243-246(1987).  
 RN [5]  
 RP SEQUENCE OF 1-53 FROM N.A.  
 RX MEDLINE=93252628; PubMed=8486521;  
 RA Takimoto Y., Li W.Y., Wang Z.Y., Tong B.D., Deuel T.F.;  
 RA "Nucleotide sequence of the 5' region of the human platelet-derived  
 RA growth factor A-chain gene";  
 RA Hiroshima J. Med. Sci. 42:47-52(1993).  
 RN [6]  
 RP ALTERNATIVE SPLICING.  
 RX MEDLINE=87287247; PubMed=3614363;  
 RA Tong B.D., Auer D.E., Jaje M., Kaplow J.M., Ricca G., McConathy E.,  
 RA Dronan W., Deuel T.F.;  
 RA "cDNA clones reveal differences between human glial and endothelial  
 RA cell platelet-derived growth factor A-chains";  
 RA Nature 328:619-621(1987).  
 RN [7]  
 RP ALTERNATIVE SPLICING.  
 RX MEDLINE=87287248; PubMed=3614364;  
 RA Collins T., Bonthron D.T., Orkin S.H.;  
 RA "Alternative RNA splicing affects function of encoded platelet-derived  
 RA growth factor A chain";  
 RA Nature 328:621-624(1987).  
 RN [8]  
 RP INTERCHAIN DISULFIDE BONDS.  
 RX MEDLINE=92283833; PubMed=3317862;  
 RA Andersson M., Oestman A., Baekstroem G., Hellman U.,  
 RA George-Nascimento C., Westermarck B., Heldin C.-H.;  
 RA "Assignment of interchain disulfide bonds in platelet-derived growth  
 RA factor (PDGF) and evidence for agonist activity of monomeric PDGF";  
 RA J. Biol. Chem. 267:11260-11266(1992).  
 RL J. Biol. Chem. 267:11260-11266(1992).  
 CC -I- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR  
 CC CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS  
 CC AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS  
 CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE  
 CC IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEAL THE WOUND.  
 CC -I- SUBUNIT: ANTI-PARALLEL, DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  
 CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN  
 CC TRANSFORMATION PROCESSES.  
 CC -I- ALTERNATIVE PRODUCTS: 2 ISOFORMS: A LONG FORM (SHOWN HERE) AND A  
 CC SHORT FORM; ARE PRODUCED BY ALTERNATIVE SPLICING. THE LONG FORM  
 CC CONTAINS A BASIC INSERT WHICH ACTS AS A CELL RETENTION SIGNAL.  
 CC -I- MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE  
 CC PDGF RECEPTOR.  
 CC -I- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
 CC -I- DATABASE: NME-R&D Systems' cytokine source book;  
 CC WWW="http://www.rndsystems.com/cyt\_cat/pdgf.html".  
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 CC -----  
 DR EMBL; M21571; -; NOT\_ANNOTATED\_CDS.  
 DR EMBL; X03795; CA27421.1; -;  
 DR EMBL; X06374; CAA29677.1; -;  
 DR EMBL; M20494; AAA60045.1; -;  
 DR EMBL; M20488; AAA60045.1; JOINED.  
 DR EMBL; M20489; AAA60045.1; JOINED.  
 DR EMBL; M20490; AAA60045.1; JOINED.  
 DR EMBL; M20491; AAA60045.1; JOINED.  
 DR EMBL; M20492; AAA60045.1; JOINED.  
 DR EMBL; M20493; AAA60045.1; JOINED.  
 DR EMBL; M19888; AAA60045.1; -;  
 DR EMBL; M21571; AAA60046.1; JOINED.

DR EMBL: M19984; AAA60046.1; JOINED.  
 DR EMBL: M19985; AAA60046.1; JOINED.  
 DR EMBL: M19986; AAA60046.1; JOINED.  
 DR EMBL: M19987; AAA60046.1; JOINED.  
 DR EMBL: M19988; AAA60047.1; JOINED.  
 DR EMBL: M21571; AAA60047.1; JOINED.  
 DR EMBL: M19984; AAA60047.1; JOINED.  
 DR EMBL: M19985; AAA60047.1; JOINED.  
 DR EMBL: M19986; AAA60047.1; JOINED.  
 DR EMBL: M19987; AAA60047.1; JOINED.  
 DR EMBL: A09204; CA000830.1; -.  
 DR EMBL: S62078; AAB26566.1; -.  
 DR PIR: A28964; PF0031.  
 DR PIR: B28964; B28964.  
 DR HSP: P01127; 1PDG.  
 DR MIM: 173430; -.  
 DR InterPro: IPR000072; -.  
 DR InterPro: IPR002400; -.  
 DR Pfam: PF00341; PDGF. 1.  
 DR PRINTS: PR00438; GFCYSKNOT.  
 DR PROSITE: PS00249; PDGF\_1; 1.  
 DR PROSITE: PS50278; PDGF\_2; 1.  
 DR Glycoprotein; Mitogen; Growth factor; Platelet; Alternative splicing;  
 KW Signal.  
 FT SIGNAL 1 20  
 FT PROPEP 21 86  
 FT CHAIN 87 211  
 FT SITE 158 162  
 FT DISULFID 96 140  
 FT DISULFID 129 177  
 FT DISULFID 133 179  
 FT DISULFID 123 123  
 FT DISULFID 132 132  
 FT CARBOHYD 134 134  
 FT CARSPIC 194 196  
 FT VARSPIC 197 211  
 FT CONFLICT 64 66  
 FT SEQUENCE 211 AA; 24043 MW; 48633DDE58BEFA3 CRC64;  
 SO  
 Query Match 16.7%; Score 104; DB 1; Length 211;  
 Best Local Similarity 34.0%; Pred. No. 0.0006;  
 Matches 32; Conservative 12; Mismatches 34; Indels 16; Gaps 6;  
 QY 16 CTPENFVSST-REELKRTDTIF--WPGCLVYKRGCGNACCLHNCNECCPSKV---TK 69  
 DB 96 CKTTTVEYDEIPRSOVDPTSANFLIMPCVEYKCTG---CC--WTSSVKCPSPVHRSV 150  
 QY 70 KYHEVLQRPKTVGRLHSLTDVALEHNECDC 103  
 DB 151 KVAKEVYRKPKLKEV-----QVRLHEHLECCAC 179  
 Db  
 RESULT 11  
 PDGF\_MOUSE STANDARD; PRT; 211 AA.  
 ID PDGF\_MOUSE  
 AC P20033;  
 DT 01-FEB-1991 (Rel. 17, Created)  
 DT 01-OCT-1996 (Rel. 34, Last sequence update)  
 DT 01-OCT-2000 (Rel. 40, Last annotation update)  
 DE PLATELET-DERIVED GROWTH FACTOR, A CHAIN PRECURSOR (PDGF A-CHAIN)  
 DE (PDGF-1).  
 GN PDGFA.  
 OS Mus musculus (mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eulalia; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 OX NCBI\_TaxID=10090;  
 RN 11  
 RP SEQUENCE FROM N.A. (LONG AND SHORT FORMS).  
 RC STRAIN-BALB/C;  
 RX MEDLINE=94031105; PubMed=1340209;  
 RA Rorsman F., Betholtz C.;  
 RT "Characterization of the mouse PDGF A-chain gene. Evolutionary

RT conservation of gene structure, nucleotide sequence and alternative  
 RT splicing."  
 RL Growth Factors 6:303-313(1992).  
 RN (2)  
 RP SEQUENCE FROM N.A. (SHORT FORM).  
 RC STRAIN-F9;  
 RX MEDLINE=90169294; PubMed=2155144;  
 RA Mercola M., Wang C., Kelly J., Brownlee C., Jackson-Grusby L.,  
 RA Stiles C., Bowen-Pope D.;  
 RT "Selective expression of PDGF A and its receptor during early mouse  
 RT embryogenesis."  
 RL Dev. Biol. 138:114-122(1990).  
 CC -1- FUNCTION: PLATELET-DERIVED GROWTH FACTOR IS A POTENT MITOGEN FOR  
 CC CELLS OF MESENCHYMAL ORIGIN. BINDING OF THIS GROWTH FACTOR TO ITS  
 CC AFFINITY RECEPTOR ELICITS A VARIETY OF CELLULAR RESPONSES. IT IS  
 CC RELEASED BY PLATELETS UPON WOUNDING AND PLAYS AN IMPORTANT ROLE  
 CC IN STIMULATING ADJACENT CELLS TO GROW AND THEREBY HEALS THE WOUND.  
 CC -1- SUBUNIT: ANTIPARALLEL DISULFIDE-LINKED DIMER OF NONIDENTICAL (A  
 CC AND B) CHAINS. HOMODIMERS OF A AND B CHAINS ARE IMPLICATED IN  
 CC TRANSFORMATION PROCESSES.  
 CC -1- ALTERNATIVE PRODUCTS: 2 ISOPFORMS: A LONG FORM (SHOWN HERE) AND A  
 CC SHORT FORM. ARE PRODUCED BY ALTERNATIVE SPLICING. THE LONG FORM  
 CC CONTAINS A BASIC INSERT WHICH ACTS AS A CELL RETENTION SIGNAL.  
 CC -1- MISCELLANEOUS: A-A AND B-B, AS WELL AS A-B, DIMERS CAN BIND TO THE  
 CC PDGF RECEPTOR.  
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.  
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 CC -----  
 DR EMBL: S66873; AAB28740.2; -.  
 DR EMBL: S66868; AAB28740.2; JOINED.  
 DR EMBL: S66869; AAB28740.2; JOINED.  
 DR EMBL: S66870; AAB28740.2; JOINED.  
 DR EMBL: S66871; AAB28740.2; JOINED.  
 DR EMBL: S66872; AAB28740.2; JOINED.  
 DR EMBL: S66874; AAB28741.2; -.  
 DR EMBL: S66868; AAB28741.2; JOINED.  
 DR EMBL: S66869; AAB28741.2; JOINED.  
 DR EMBL: S66870; AAB28741.2; JOINED.  
 DR EMBL: S66871; AAB28741.2; JOINED.  
 DR EMBL: S66872; AAB28741.2; JOINED.  
 DR EMBL: M29464; AAA39903.1; -.  
 DR PIR: A37359; A37359.  
 DR HSP: P01127; 1PDG.  
 DR MGD: MGI:97527; PDGfa.  
 DR InterPro: IPR000072; -.  
 DR InterPro: IPR002400; -.  
 DR Pfam: PF00341; PDGF. 1.  
 DR PRINTS: PR00438; GFCYSKNOT.  
 DR PROSITE: PS00249; PDGF\_1; 1.  
 DR PROSITE: PS50278; PDGF\_2; 1.  
 KW Glycoprotein; Mitogen; Growth factor; Platelet; Alternative splicing;  
 KW Signal.  
 FT SIGNAL 1 20  
 FT PROPEP 21 86  
 FT CHAIN 87 211  
 FT SITE 158 162  
 FT DISULFID 96 140  
 FT DISULFID 129 177  
 FT DISULFID 133 179  
 FT DISULFID 123 123  
 FT DISULFID 132 132  
 FT CARBOHYD 134 134  
 FT CARSPIC 194 196  
 FT VARSPIC 197 211  
 FT CONFLICT 92 92  
 FT CONFLICT 174 174  
 REMOVED BY PROTEOLYSIS.  
 PLATELET-DERIVED GROWTH FACTOR, A CHAIN.  
 RECEPTOR BINDING SITE (POTENTIAL).  
 BY SIMILARITY.  
 BY SIMILARITY.  
 INTERCHAIN (BY SIMILARITY).  
 INTERCHAIN (BY SIMILARITY).  
 N-LINKED (GLCNAC. . .).  
 GR -> DVR (IN SHORT ISOFORM).  
 MISSING (IN SHORT ISOFORM).  
 V -> I (IN REF. 2).  
 H -> D (IN REF. 1).

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SO SEQUENCE 211 AA; 24102 MW; AC63A5A10ECFAB93 CRC64;
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Query Match      16.7%; Score 104; DB 1; Length 211;  
Best Local Similarity   34.0%; Pred. No. 0.0006;  
Matches    32; Conservative     12; Mismatches    34; Indels     16; Gaps       6;
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OY    16 CTPRNFVSIV-RELAKRDITF--WPGCLLVKRCGNCACGLHNNEOCVSKV---TK 69  
           | : | ::|::||: ||:||||: | : |:| :| |:  
Db      96 CKTRVIYEIPROSDPNSANFLMPCEVEVKRG-----CC--NMSVCKOPSRVHNRSV 150

OY        70 KYHEVLQLRPKTGVGRGLHKSLTDVALEHHNECDC 103  
           | : | ::|::||: ||:||||: | : |:| :| |:  
Db      151 KVAKEYVRKKRKKEV-----QVRLERHLHCAC 179

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RESULT 12  
TSIS-SMNAV ID TSIS-SMNAV STANDARD: PRT: 226 AA.  
PCO1128; OAI1283; PT: 226 AA.
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DT 21-JUL-1986 (Rel. 01, Created)  
DT 21-JUL-1986 (Rel. 01, Last sequence update)  
DE 15-JUL-1999 (Rel. 38, Last annotation update)

CG PGCF-RELATED TRANSFORMING PROTEIN p28-SIS.  
GN V-SIS.  
OS Simian sarcoma virus.  
CS Viruses; Retroviral viruses; Retroviridae; Mammalian type C retroviruses.  
OX NCBI\_Taxid=11817;  
RX MEDLINE=83144004; PubMed=6298772;  
RA Devare S.G., Reddy E.P., Law J.D., Robbins K.C., Aaronson S.A.;  
RT "Nicotinic acid sequence of the simian sarcoma virus genome:  
RT demonstration that its acquired cellular sequences encode the  
RT transforming gene product p28Sis." ;  
RN Proc Natl Acad Sci U.S.A. 80:731-735(1983)  
RL -I SIMILARITY BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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OR send an email to [license@lsb.silb.ch](mailto:license@lsb.slb.ch).

DR EMBL: VOJ201; CAA24516.1; ALT\_INT.  
DR PTR: ADI381; TVMVSS.  
DR HSP: PO1127; IPDG.  
DR InterPro: IPR000072; .  
DR InterPro: IPR002400; .  
DR Pfam: PF00341; PDGF\_1.  
DR PRINTS: PR00438; GFYSKNOT.  
DR PROSITE: PS00249; PDGF\_1; 1.  
DR PROSITE: PS50278; PDGF\_2; 1.  
KW Transforming protein; Oncogene; Growth factor.  
RW Transfoming proteIn; Oncogene; Growth factor.  
SQ SEQUENCE 226 AA; 25411 MM; A16813ABB5B90C5 CRC64:

Query Match          16.7%. Score 104; DB 1; Length 226;  
Best Local Similarity    33.3%. Pred. No. 0.00064;  
Matches    36; Conservative    12; Mismatches    34; Indels    26; Gaps    9;

OY        7 LEEERVLYSCPPRN-FEVSIREELKRPTDIF--WPGCLLVKRCGNCACGLHNNEOC 62  
           | : | ::|::||: ||:||||: | : |:~| :| |:  
Db      73 VAEPMAIMECTRIIVEFELS-RLLIDRTIRNAFLVPPEVOVRCGC---CC--NNRNQC 126

OY        63 VPSTVTKYRYHEYLQR----KTGV---RGLHKSLTDVALEHHNECDC 103  
           | : | ::|::||: ||:||||: | : |:~| :| |:  
Db      127 RPTYG-----QLRPYOVRKIIEIVRRKPFFKKAT-VTLLEDHLACKC 165

RESULT 13

```

VEGH_ORFN2          STANDARD:      PRT:      133 AA.
ID   VEGH_ORFN2          STANDARD:
AC   P52584;
DT   01-OCT-1996 (Rel. 34, Created)
DT   01-OCT-1996 (Rel. 34, Last sequence update)
DT   01-OCT-2000 (Rel. 40, Last annotation update)
DE   VASCULAR ENDOTHELIAL GROWTH FACTOR HOMOLOG PRECURSOR.
GN   A2R.
OS   Orf virus (strain NZ2). (OV NZ-2).
OC   Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
OC   Parapoxvirus.
OC   NCHI_TaxID=10259;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=94076465; Pubmed=8254780;
RA   Lytle D.J., Fraser K.M., Fleming S.B., Mercer A.A., Robinson A.J.;
RA   "Homologs of vascular endothelial growth factor are encoded by the
RT   poxvirus orf virus.";
RL   J. Virol. 68:84-92(1994).
CC   -!- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
CC   -!- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
CC   -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
-----
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CC   entities requires a license agreement (see http://www.isb-sib.ch/announce/
CC   or send an email to license@sib-sib.ch).
-----
CC   EMBL: S67520; AAB29220.2; -.
DR   HSSP: P15692; IVPF.
DR   InterPro: IPR000072; -.
DR   Pfam: PF00341; PDGF_1.
DR   PROSITE: PS00249; PDGF_1; 1.
DR   PROSITE: PS50278; PDGF_2; 1.
KW   Mitogen; Growth factor; Glycoprotein; Signal.
FT   SIGNAL          1
FT   CHAIN           ? 133
FT                                     VASCULAR ENDOTHELIAL GROWTH FACTOR
FT                                     HOMOLOG.
FT   DISULFID        36 78      BY SIMILARITY.
FT   DISULFID        67 112     BY SIMILARITY.
FT   DISULFID        71 114     BY SIMILARITY.
FT   DISULFID        61 61      INTERCHAIN (BY SIMILARITY).
FT   DISULFID        70 70      INTERCHAIN (BY SIMILARITY).
FT   CARBOHYD        85 85      N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ   SEQUENCE      133 AA; 14715 MM; 917C0F6883030C39 CnC64;
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Query Match          16.5%; Score 102.5; DB 1; Length 133;
Best Local Similarity 30.5%; Pred. NO. 0.00055;
Matches 32; Conservative 18; Mismatches 40; Indels 15; Gaps 6.
OY   8 TEEVNLVICTPKNFSVSIKRE--ELKRPDTIPWPCCLLYKRGCGMCACCLHNCNECQYP 64
      : : : : | | | | : : : : | | | | : : : : | | | | : : : : | | | |
DB   28 SEVLGSECKRPPIVVPVSETHPEL--TSQRENPFCVTLMRGCG--CC--NDESLIECVP 80
      : : : : | | | | : : : : | | | | : : : : | | | | : : : : | | | |
OY   65 SKVTAKYHEVLQLRPKTGVRGILKSLTQVLEHHNECCQCVCGST 109
      : : : : | | | | : : : : | | | | : : : : | | | | : : : : | | | |
DB   81 TEEVNVSMELLG-ASGSGSNGMOR---LSFVEYHKKCDKCPRPFTT 120
      : : : : | | | | : : : : | | | | : : : : | | | | : : : : | | | |

RESULT 14
VEGF_PIG          STANDARD:      PRT:      190 AA.
ID   VEGF_PIG          STANDARD:
AC   P49151;
DT   01-FEB-1996 (Rel. 33, Created)
DT   01-FEB-1996 (Rel. 33, Last sequence update)
DT   01-OCT-1996 (Rel. 34, Last annotation update)
DE   VASCULAR ENDOTHELIAL GROWTH FACTOR PRECURSOR (VEGF) (VASCULAR
DE   PERMEABILITY FACTOR) (VPF).
GN   VEGF.

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OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.
OX NCBI_TaxID=96063;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Heart;
RX MEDLINE=95143284; PubMed=7841203;
RA Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
RT "Nucleotide sequence and expression of the porcine vascular
    endothelial growth factor"; Acta 1260:235-238(1995).
RL Blochm. Biophys.
CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
CC CELL GROWTH. INDUCES ENDOTHELIAL PROLIFERATION AND VASCULAR
CC PERMEABILITY (BY SIMILARITY).
CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: SECRETED BUT REMAINS ASSOCIATED TO CELLS OR
CC TO THE EXTRACELLULAR MATRIX UNLESS RELEASED BY HEPARIN (BY
CC SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL: X81380; CAA57143.1; -
DR HSSP: P15692; 2VGH.
DR InterPro: IPR000072; -
DR Pfam: PF00341; PDGF_1; 1.
DR PROSITE: PS00249; PDGF_1; 1.
DR PROSITE: PS50278; PDGF_2; 1.
KW Mitogen; Growth factor; Glycoprotein; Signal.
FT SIGNAL 1 26
FT CHAIN 27 190
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD 100 100
FT SEQUENCE 190 AA; 22368 MW; 04D408BD7913047F CRC64;

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Query Match 16.5%; Score 102.5; DB 1; Length 190;
Best Local Similarity 27.0%; Pred. No. 0.00078;
Matches 24; Conservative 20; Mismatches 34; Indels 11; Gaps 4;

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OY 16 CTPRNSVSIREL-KRTDTIPGCLLVKRCGCACCLHNCNEQCVPSKYTKYHEV 74
DB 51 CRIETLVDFIPEYDEIETFKPSCVPLRCGG---CC--NDEGLCVPTSEINIMTOI 105
OY 75 LQLRPKTGVGLHSLTDVLEHNEECDC 103
DB 106 MRLKPHG-----QHIGKMSFLDHNNKCEC 129

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```

RESULT 15
VEGC_HUMAN
ID VEGC_HUMAN STANDARD; PRT: 419 AA.
AC P49767;
DT 01-OCT-1996 (rel. 34, Created)
DT 01-OCT-1996 (rel. 34, Last sequence update)
DT 01-OCT-2000 (rel. 40, Last annotation update)
DE VASCULAR ENDOTHELIAL GROWTH FACTOR C PRECURSOR (VEGF-C) (VASCULAR
DE ENDOTHELIAL GROWTH FACTOR RELATED PROTEIN) (VRP) (FLT4 LIGAND) (FLT4-
DE L).
GN VEGFC.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;

```

```

OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=96063;
RN [1]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 103-120.
RX MEDLINE=96178224; PubMed=8617204;
RA Joukov V., Pajusola K., Kaipainen A., Chillov D., Lahtinen I., Kukk E.,
RA Saksela O., Kalkkinen N., Allitalo K.;
RT "A novel vascular endothelial growth factor, VEGF-C, is a ligand for
RT the Flt4 (VEGFR-3) and KDR (VEGFR-2) receptor tyrosine kinases.";
RL EMBO J. 15:1290-1298(1996).
RN [2]
RP ERRATUM.
RX MEDLINE=96203094; PubMed=8612600;
RA Joukov V., Pajusola K., Kaipainen A., Chillov D., Lahtinen I., Kukk E.,
RA Saksela O., Kalkkinen N., Allitalo K.;
RL EMBO J. 15:1751-1751(1996).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=9612526; PubMed=8700872;
RA Lee J., Gray A., Yuan J., Luoh S.-M., Avraham H., Wood M.I.;
RT "Vascular endothelial growth factor-related protein: a ligand and
RT specific activator of the tyrosine kinase receptor Flt4.";
RL Proc. Natl. Acad. Sci. U.S.A. 93:1988-1992(1996).
RN [4]
RP SEQUENCE FROM N.A.
RA Birt L., Morris J.C., Towler P.S., Long A.J., Greco R.,
RA Furez P., Gianotti J., Claretta A., Hennessey D., Kovacic S.,
RA Fitzgerald M., Scaltreto H., Welch N., Neben S., Flinnerty H.,
RA Zolner R., Wang J., Nickbarg E., Gasaway R., Turner K.,
RA Wood C.R.;
RL Submitted (JUN-1996) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: GROWTH FACTOR ACTIVE IN ANGIOGENESIS, AND ENDOTHELIAL
CC CELL GROWTH.
CC -1- SUBUNIT: HOMODIMER, DISULFIDE-LINKED.
CC -1- PTM: PROBABLY PROTEOLITICALLY PROCESSED IN THE C-TERMINUS.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: X94216; CAA63907.1; -
DR EMBL: U43142; AA85214.1; -
DR EMBL: U58111; AA802909.1; -
DR HSSP: P15692; 1VPF.
DR MIM: 601528; -
DR InterPro: IPR000072; -
DR InterPro: IPR002400; -
DR Pfam: PF00341; PDGF_1; 1.
DR PRINTS: PRO0438; GFCYSKNQF.
DR PROSITE: PS00249; PDGF_1; 1.
DR PROSITE: PS50278; PDGF_2; 1.
KW Mitogen; Growth factor; Glycoprotein; Signal; Repeat.
FT SIGNAL 1 2
FT PROPEP 3 102
FT CHAIN 103 419
FT DOMAIN 275 365
FT REPEAT 275 298
FT REPEAT 299 322
FT REPEAT 323 346
FT REPEAT 347 365
FT CARBOHYD 175 175
FT CARBOHYD 205 205
FT CARBOHYD 240 240
FT SEQUENCE 419 AA; 46883 MW; 9F598719DB3E014F CRC64;

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Query Match 16.5%; Score 102.5; DB 1; Length 419;
Best Local Similarity 28.2%; Pred. No. 0.0017;

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[illegible]

Search completed: July 3, 2001, 10:33:06  
Job time: 206 sec



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Query Match      17.4%: Score 108; DB 2; Length 198;
Best Local Similarity 32.3%: Pred. No. 0.0016;
Matches 32; Conservative 14; Mismatches 41; Indels 12; Gaps 6;

Oy 16 CTRPNRSVSI-REELKRTDTIF--WPGCLLYKRCGNCACCLHNECCQVPSKYTKYH 72
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 31 CKTRTYIYEIPRSQDPTSANFLIMPCVEVKRCYG---CC--NTSSVKQCPSPRI---HH 82
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Oy 73 EVQLARPKTGVRLGHLKSLTDVALEHHECCDCVCRSTG 111
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 83 RSYKVAKEVEYRKRPK-LKEYQVRLLEHLLECCACAASAG 120
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

RESULT 3
platelet-derived growth factor chain A1 precursor - rabbit
JS0735
C:Species: Oryctolagus cuniculus (domestic rabbit)
C:Date: 09-Oct-1992 #sequence_revision 09-Oct-1992 #text_change 27-Jun-1994
C:Accession: JS0735
R:Nakamura, K.; Nishimura, H.; Kuro-O, M.; Takewaki, S.; Iwase, M.; Okubo, A.; Yazaki,
Biochem. Biophys. Res. Commun. 184, 811-818, 1992
A:Title: Identification of three types of PDGF-A chain gene transcripts in rabbit vasculi
A:Reference number: JN0248; MUID:92246970
A:Accession: JS0735
A:Molecule type: mRNA
A:Residues: 1-198 <RNA>
A>Note: this protein corresponds to the endothelial type of human A chain
C:Superfamily: platelet-derived growth factor
F:1-20/Domain: signal sequence #status predicted <SIG>
F:21-89/Domain: propeptide #status predicted <PRO>
F:90-198/Product: platelet-derived growth factor A1 chain #status predicted <MAT>

Query Match      17.4%: Score 108; DB 2; Length 198;
Best Local Similarity 32.3%: Pred. No. 0.0016;
Matches 32; Conservative 14; Mismatches 41; Indels 12; Gaps 6;

Oy 16 CTRPNRSVSI-REELKRTDTIF--WPGCLLYKRCGNCACCLHNECCQVPSKYTKYH 72
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 98 CKTRTYIYEIPRSQDPTSANFLIMPCVEVKRCYG---CC--NTSSVKQCPSPRI---HH 149
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Oy 73 EVQLARPKTGVRLGHLKSLTDVALEHHECCDCVCRSTG 111
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 150 RSYKVAKEVEYRKRPK-LKEYQVRLLEHLLECCACAASAG 167
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

RESULT 4
platelet-derived growth factor A chain short form precursor - African clawed frog
I51531
C:Species: Xenopus laevis (African clawed frog)
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: I51531
R:Mercola, M.; Melton, D.A.; Stiles, C.D.
Science 241, 1223-1225, 1988
A:Title: Platelet-derived growth factor A chain is maternally encoded in Xenopus embryos
A:Reference number: I51550; MUID:88321676
A:Accession: I51551
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-200 <MR>
A:Cross-references: GB:I23328; NID:g214650; PIDN:AAA49928.1; PID:g214651
C:Superfamily: platelet-derived growth factor

Query Match      16.9%: Score 105; DB 2; Length 200;
Best Local Similarity 31.4%: Pred. No. 0.0032;
Matches 33; Conservative 14; Mismatches 32; Indels 26; Gaps 8;

Oy 16 CTRPNFSVSI-REELKRTDTIF--WPGCLLYKRCGNCACCLHNECCQVPSKYTKYH 72
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 101 CKTRTYIYEIPRSQDPTSANFLIMPCVEVKRCYG---CC--NTSSVKQCPSPRI---HH 152
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Oy 73 -----EVQLARPKTGVRLGHLKSLTDVALEHHECCDCVCRSGT 109
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 153 RSYKVAKEVEYRKRPK-----LKEYV-----VRLEHHECTTANSS 190
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

```

```

RESULT      5
S08220
platelet-derived growth factor chain A precursor - African clawed frog
C:Species: Xenopus laevis (African clawed frog)
C:Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 16-Jul-1999
C:Accession: S08220
R:Bejcek, B.E.; Li, D.Y.; Denel, T.F.
Nucleic Acids Res. 18, 680, 1990
A:Title: Nucleotide sequence of a cDNA clone of Xenopus platelet-derived growth factor
A:Reference number: S08220; MUID:90175018
A:Accession: S08220
A:Status: translation not shown
A:Molecule type: mRNA
A:Residues: 1-215 <BEF>
A:Cross-references: EMBL:X17545; NID:g64973; PIDN:CA35583.1; PID:g64974
C:Superfamily: platelet-derived growth factor
C:Keywords: alternative splicing; growth factor
F:1-22/Domain: signal sequence #status predicted <SIG>
F:23-91/Domain: propeptide #status predicted <PRO>
F:92-215/Product: platelet-derived growth factor chain A #status predicted <MAT>

Query Match      16.9%; Score 105; DB 2; Length 215;
Best Local Similarity 31.4%; Pred. No. 0.0034;
Matches 33; Conservative 14; Mismatches 32; Indels 26; Gaps 8;

OY      16 CTPRNFVSII-HEELKRTDTIF--WPGCLLYRCGCGNACCLHNCNOCQVPSKYTKKYH 72
      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
DB      101 CTRTRIVYIEIPRSQIDPISANFLIMPCVEYKRCGT---CC--NTSSVKCQPSRI---HH 152

OY      73 -----EVLDLRPKTGVRCGLHKSITDVALEHNEECQVCGRST 109
      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
DB      153 RSVKVAKEVYRKPKR-----LKEVL--VRLEEHLECTCTANSNS 190

RESULT      6
S15150
platelet-derived growth factor A chain long form precursor - African clawed frog
C:Species: Xenopus laevis (African clawed frog)
C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
C:Accession: S15150
R:Mercola, M.; Melton, D.A.; Stiles, C.D.
Science 241, 1223-1225, 1988
A:Title: Platelet-derived growth factor A chain is maternally encoded in Xenopus embryo
A:Reference number: S15150; MUID:88321676
A:Accession: S15150
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-226 <MER>
A:Cross-references: GB:M23237; NID:g214648; PIDN:AAA49927.1; PID:g214649
C:Superfamily: platelet-derived growth factor

Query Match      16.9%; Score 105; DB 2; Length 226;
Best Local Similarity 31.4%; Pred. No. 0.0035;
Matches 33; Conservative 14; Mismatches 32; Indels 26; Gaps 8;

OY      16 CTPRNFVSII-HEELKRTDTIF--WPGCLLYRCGCGNACCLHNCNOCQVPSKYTKKYH 72
      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
DB      101 CTRTRIVYIEIPRSQIDPISANFLIMPCVEYKRCGT---CC--NTSSVKCQPSRI---HH 152

OY      73 -----EVLDLRPKTGVRCGLHKSITDVALEHNEECQVCGRST 109
      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
DB      153 RSVKVAKEVYRKPKR-----LKEVL--VRLEEHLECTCTANSNS 190

RESULT      7
PFHUG2
platelet-derived growth factor chain B precursor [validated] - human
N:Alternate names: PDGF B-chain; PDGF-B; PDGF-II; PDGF-related transforming protein (
C:Species: Homo sapiens (man)

```



C.Date: 18-Apr-1984 #sequence\_revision 20-Sep-1984 #text\_change 08-Dec-2000  
 C.Accession: A94276; A21024; A23532; A93366; A25141; A94271; A93308; A43499; S56115; 157  
 R.Josephs, S.F.; Ratner, L.; Clarke, M.F.; Westlin, E.H.; Reltz, M.S.; Wong-Staal, F.  
 Science 225, 636-639, 1984  
 A.Title: Transforming potential of human c-sis nucleotide sequences encoding platelet-de  
 A.Reference number: A94276; MUID:84250225  
 A.Accession: A94276  
 A.Molecule type: DNA  
 A.Residues: 1-241 <JOS1>  
 A.Cross-references: GB:K01401; NID:9338206; PIDN:AAA60552.1; PID:9338209  
 R.Chu, I.M.; Reddy, E.P.; Givol, D.; Robbins, K.C.; Tronick, S.R.; Aaronson, S.A.  
 Cell 37, 123-129, 1984  
 A.Title: Nucleotide sequence analysis identifies the human c-sis proto-oncogene as a str  
 A.Reference number: A21024; MUID:84205633  
 A.Accession: A21024  
 A.Molecule type: DNA  
 A.Residues: 17-20, 'RO', 22-241 <CHI>  
 A.Cross-references: GB:K01917; NID:9338197  
 R.Rao, C.D.; Igarashi, H.; Chu, I.M.; Robbins, K.C.; Aaronson, S.A.  
 Proc. Natl. Acad. Sci. U.S.A. 83, 2392-2396, 1986  
 A.Title: Structure and sequence of the human c-sis/platelet-derived growth factor 2 (sis  
 A.Reference number: A23532; MUID:86205961  
 A.Accession: A23532  
 A.Molecule type: mRNA  
 A.Residues: 1-241 <RAO1>  
 A.Cross-references: GB:M12783; GB:M16288; NID:9338210; PIDN:AAA60553.1; PID:9338211  
 R.Collins, T.; Ginsburg, D.; Boss, J.M.; Oklin, S.H.; Pober, J.S.  
 Nature 316, 748-750, 1985  
 A.Title: Cultured human endothelial cells express platelet-derived growth factor B chain  
 A.Reference number: A93366; MUID:85296313  
 A.Accession: A93366  
 A.Molecule type: mRNA  
 A.Residues: 1-241 <COL>  
 A.Cross-references: GB:X02811; NID:935371; PIDN:CAA26579.1; PID:935372  
 R.Weich, H.A.; Seidat, W.; Schaller, H.U.; Hoppe, J.  
 FEBS Lett. 198, 344-348, 1986  
 A.Title: The human osteosarcoma cell line U-2 OS expresses a 3.8 kilobase mRNA which cod  
 A.Reference number: A25141; MUID:86164981  
 A.Accession: A25141  
 A.Molecule type: mRNA  
 A.Residues: 26-241 <WEI>  
 A.Cross-references: GB:X03702; NID:935374; PIDN:CAA27333.1; PID:935375  
 R.Antonides, H.N.; Hunkapiller, M.W.  
 Science 220, 963-965, 1983  
 A.Title: Human platelet-derived growth factor (PDGF): amino-terminal amino acid sequence  
 A.Reference number: A94271; MUID:83197379  
 A.Accession: A94271  
 A.Molecule type: protein  
 A.Residues: 82-100, 'E', 102-104, 'C', 106, 'C', 108-110 <ANT>  
 R.Waterfield, M.D.; Scrace, G.T.; Whittle, N.; Stroobant, P.; Johnson, A.; Wasteson, A.  
 Nature 304, 35-39, 1983  
 A.Title: Platelet-derived growth factor is structurally related to the putative transfor  
 A.Reference number: A93308; MUID:83244961  
 A.Accession: A93308  
 A.Molecule type: protein  
 A.Residues: 82-112 <MAT>  
 R.Josephs, S.F.; Guo, C.; Ratner, L.; Wong-Staal, F.  
 Science 223, 487-491, 1984  
 A.Title: Human proto-oncogene nucleotide sequences corresponding to the transforming reg  
 A.Reference number: A43499; MUID:84097355  
 A.Accession: A43499  
 A.Molecule type: DNA  
 A.Residues: 'Q', 22-241 <JOS2>  
 R.Lu, K.V.; Rohde, M.F.; Thomson, A.R.; Kenney, W.C.; Lu, H.S.  
 Biochem. J. 309, 411-417, 1995  
 A.Title: Mistranslation of a TGA termination codon as tryptophan in recombinant platelet  
 A.Reference number: S56115; MUID:95351967  
 A.Accession: S56115  
 A.Status: preliminary  
 A.Molecule type: protein  
 A.Residues: 82-93 <LUK>  
 R.Rao, C.D.; Pech, M.; Robbins, K.C.; Aaronson, S.A.

Mol. Cell. Biol. 8, 284-292, 1988  
 A.Title: The 5' untranslated sequence of the c-sis/platelet-derived growth factor 2 t  
 A.Reference number: 157635; MUID:88094398  
 A.Accession: 157635  
 A.Status: translated from GB/EMBL/DBJ  
 A.Molecule type: DNA  
 A.Residues: 1-20 <RAO2>  
 A.Cross-references: GB:M19719; NID:9189727; PIDN:AAA60349.1; PID:9553608  
 R.Ratner, L.; Josephs, S.F.; Jarrett, R.; Reltz, M.S.  
 Nucleic Acids Res. 13, 5007-5018, 1985  
 A.Title: Nucleotide sequence of transforming human c-sis cDNA clones with homology to  
 A.Reference number: 137266; MUID:85269623  
 A.Accession: 137266  
 A.Status: translated from GB/EMBL/DBJ  
 A.Molecule type: mRNA  
 A.Residues: 1-241 <RAT>  
 A.Cross-references: EMBL:X02744; NID:930246; PIDN:CAA26524.1; PID:930247  
 R.Johnson, A.; Heldin, C.H.; Wasteson, A.; Westermark, B.; Denell, T.F.; Huang, J.S.;  
 EMBO J. 3, 921-928, 1984  
 A.Title: The c-sis gene encodes a precursor of the B chain of platelet-derived growth  
 A.Reference number: A55030; MUID:84236121  
 A.Accession: A55030  
 A.Status: preliminary  
 A.Molecule type: DNA  
 A.Residues: 'SLSL', 17-20, 'RO', 22-241 <JOH>  
 A.Cross-references: GB:X00556; GB:X00559; GB:X00560; GB:X00561; GB:X00562  
 R.Dirts, R.P.H.; Onnekink, C.; Jansen, H.J.; de Jong, A.; Bloemers, H.P.J.  
 Nucleic Acids Res. 23, 2815-2822, 1995  
 A.Title: A novel human c-sis mRNA species is transcribed from a promoter in c-sis int  
 A.Reference number: S58382; MUID:9538493  
 A.Accession: S58382  
 A.Status: preliminary  
 A.Molecule type: mRNA  
 A.Residues: 'MFMIGV', 22-200 <DIR>  
 A.Cross-references: EMBL:X83705; NID:9951023; PIDN:CAA58679.1; PID:9951025  
 R.Cook, A.L.; Kirwin, P.M.; Craib, S.; Bawden, L.J.; Green, D.R.; Price, M.J.; Richar  
 Biochem. J. 281, 57-65, 1992  
 A.Title: Purification and analysis of proteinase-resistant mutants of recombinant pla  
 A.Reference number: 138108; MUID:92117992  
 A.Accession: 138108  
 A.Status: preliminary; translated from GB/EMBL/DBJ  
 A.Molecule type: mRNA  
 A.Residues: 'M', 82-241 <COO>  
 A.Cross-references: EMBL:X63966; NID:9311378; PIDN:CAA45383.1; PID:935377  
 A.Note: mutagenized recombinant sequence  
 C.Comment: Platelet-derived growth factor, a potent mitogen for cells of mesenchymal  
 C.Genetics:  
 A.Gene: GDB:PDGFB  
 A.Cross-references: GDB:120709; OMIM:190040  
 A.Map position: 22q12.3-22q13.1  
 A.Introns: 57/3; 94/1; 192/3; 241/1  
 C.Complex: homodimer; heterodimer (see PIR:PFMUG1)  
 C.Superfamily: platelet-derived growth factor  
 C.Keywords: growth factor; mitogen  
 F:1-20/Domain: signal sequence #status predicted <SIG>  
 F:21-81/Domain: amino-terminal propeptide #status predicted <PRO>  
 F:82-190/Product: platelet-derived growth factor chain B #status experimental <MAT>  
 F:159-163/Region: receptor binding #status predicted  
 F:191-241/Domain: carboxyl-terminal propeptide #status predicted <CTP>  
 F:97-141,130-178,134-180/Disulfide bonds: #status experimental  
 F:124/Disulfide bonds: interchain (to 133 in homodimeric form) #status experimental  
 F:124/Disulfide bonds: interchain (to chain A-132 in heterodimeric form) #status pred  
 F:133/Disulfide bonds: interchain (to 124 in homodimeric form) #status experimental  
 F:133/Disulfide bonds: interchain (to chain A-124 in heterodimeric form) #status pred

Query Match 16.9%; Score 105; DB 1; Length 241;  
 Best Local Similarity 33.3%; Pred. No. 0.0037;  
 Matches 36; Conservative 12; Mismatches 34; Indels 26; Gaps 9;

Qy 7 LTEEVRLVSTPPN--FVSISIRELKRDTIF--WPGCLLYKRGCGNACCLHNCDECC 62  
 Db 88 IAEPMIAECKRTVEFEIS-RLIDRTYNNFVLPMPCEVORCSG---CC--NNRNVC 141





A:Title: Structural characterization of the human platelet-derived growth factor A-chain  
A:Reference number: A28122; MUID:88174698  
A:Accession: A28122  
A:Molecule type: mRNA  
A:Residues: 1-63, 'TRD', 67-211 <ROR>  
A:Cross-references: GB:M20488  
A:Note: the authors translated the codon ACA for residue 64 as Arg, CGT for residue 65 as Cys, and the authors translated the codon ACA for residue 64 as Arg, CGT for residue 65 as Cys; Comment: Platelet-derived growth factor, a potent mitogen for cells of mesenchymal origin; C:Comment: A carboxyl-terminal propeptide may be removed from the precursor by proteolysis  
C:Genetics:  
A:Gene: GDB:PDGFA  
A:Cross-references: GDB:120266; OMIM:173430  
A:Map position: 7p22-7p22  
A:Intons: 21/3; 54/1; 151/3; 194/1  
C:Complex: homodimer; heterodimer (see PIR:PFHUG2)  
C:Superfamily: platelet-derived growth factor  
C:Keywords: alternative splicing; glycoprotein; growth factor; mitogen; platelet  
F:1-20/Domain: signal sequence #status predicted <SIG>  
F:21-86/Domain: propeptide #status predicted <PRO>  
F:87-211/Product: platelet-derived growth factor chain A #status predicted <MAT>  
F:158-162/Region: receptor binding #status predicted  
F:96-140,129-177,133-179/Disulfide bonds: #status predicted  
F:123/Disulfide bonds: interchain (to chain B-133 in heterodimeric form) #status predicted  
F:133/Disulfide bonds: interchain (to chain B-124 in heterodimeric form) #status predicted  
F:133/Disulfide bonds: interchain (to 123 in homodimeric form) #status predicted  
F:134/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 16.7%: Score 104; DB 1; Length 211;  
Best Local Similarity 34.0%: Pred. No. 0.0042;  
Matches 32: Conservative 12; Mismatches 34; Indels 16; Gaps 6;

OY 16 CTRNFSVSI-REELKRTDTIF--WPGCLLVKRCGNCACCLHNCNECQVPSKYV---TK 69  
Db 96 CKTRVIVETIRSGVDPSANFLIMPCEVVKRCG---CC--NTSSVKQCPSRVHHNSV 150

OY 70 KYHEYLQLRPKTGVRLHSLDVALEHNEECDC 103  
Db 151 KVAKVEYVKKRKLKEV-----QVRLHEHLDCAC 179

RESULT 13  
TVNVS  
PDGF-related transforming protein (sis) - simian sarcoma virus  
N:Alternate names: p28-sis  
C:Species: simian sarcoma virus  
C:Date: 23-Jul-1983 #sequence\_revision 20-Sep-1984 #text\_change 31-Oct-1997  
C:Accession: A01381  
R:Devare, S.G.; Reddy, E.P.; Law, J.D.; Robbins, K.C.; Aaronson, S.A.  
Proc. Natl. Acad. Sci. U.S.A. 80, 731-735, 1983  
A:Title: Nucleotide sequence of the simian sarcoma virus genome: demonstration that its  
A:Reference number: A03982; MUID:83144004  
A:Accession: A01381  
A:Molecule type: genomic RNA  
A:Residues: 1-226 <DEV>  
A:Genetics:  
C:Superfamily: platelet-derived growth factor  
C:Keywords: growth factor; transforming protein  
F:6-226/Domain: platelet-derived growth factor chain B similarity <PDG>

Query Match 16.7%: Score 104; DB 1; Length 226;  
Best Local Similarity 33.3%: Pred. No. 0.0044;  
Matches 36: Conservative 12; Mismatches 34; Indels 26; Gaps 9;

OY 7 LTRVLYSCPRN--FSVSIREEIKRTDTIF--WPGCLLVKRCGNCACCLHNCNECQ 62  
Db 73 VAEPMAIECKTRFEVFEIS--RLIDRTNANFLVMPCEVORCSG---CC--NNRNVQC 126

OY 63 VPSKYTKYHEYLQLRP-----KTGV---RGLHKSLLDVALEHNEECDC 103

Db 127 RPTGV-----QLRPVQVKIEIVKKPIFKKAT-VLEDLHACKC 165

RESULT 14  
B49530  
Vascular endothelial growth factor homolog A2R, 14.7K - Orf virus  
C:Species: Orf virus  
C:Date: 07-Apr-1994 #sequence\_revision 18-Nov-1994 #text\_change 08-Oct-1999  
C:Accession: B49530  
R:Lyttle, D.J.; Fraser, K.M.; Fleming, S.B.; Mercer, A.A.; Robinson, A.J.  
J. Virol. 68, 84-92, 1994  
A:Title: Homologs of vascular endothelial growth factor are encoded by the poxvirus o  
A:Reference number: A49530; MUID:94076465  
A:Accession: B49530  
A:Contents: N22  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-133 <LYT>  
A:Cross-references: GB:567520; NID:9456897; PIDN:AMB29220.1; PID:9456899  
A:Note: sequence inconsistent with nucleotide translation  
A:Note: sequence extracted from NCBI backbone (NCBIN:141420, NCBI:141425)

Query Match 16.5%: Score 102.5; DB 2; Length 133;  
Best Local Similarity 30.5%: Pred. No. 0.0039;  
Matches 32: Conservative 18; Mismatches 40; Indels 15; Gaps 6;

OY 8 TEEVRLYSCPRNFSVSIRE--ELKRTDTIFWPGCLLVKRCGNCACCLHNCNECQV 64  
Db 28 SEVLKSGCKRPRIVPVSETHPEL--TSQRFNPPCVILMKCG---CC--NDESLCEVP 80

OY 65 SKVTKKYHEYLQLRPKTGVRLHSLDVALEHNEECDCVCRGST 109  
Db 81 TEEVVTWELLG--ASGSGNMGOR---LSFEVHKKCDKCRPRFTT 120

RESULT 15  
S52130  
Vascular endothelial growth factor - pig  
C:Species: Sus scrofa domestica (domestic pig)  
C:Date: 14-Jul-1995 #sequence\_revision 21-Jul-1995 #text\_change 05-Nov-1999  
C:Accession: S52130  
R:Sharma, H.S.; Tang, Z. H.; Cho, B. C. G.; Verdouw, P. D.  
Biochim. Biophys. Acta 1260, 235-238, 1995  
A:Title: Nucleotide sequence and expression of the porcine vascular endothelial growt  
A:Reference number: S52130; MUID:95143284  
A:Accession: S52130  
A:Status: preliminary  
A:Molecule type: mRNA  
A:Residues: 1-190 <SHA>  
A:Cross-references: GB:X81380; NID:9587559; PIDN:CAA57143.1; PID:9587560

Query Match 16.5%: Score 102.5; DB 2; Length 190;  
Best Local Similarity 27.0%: Pred. No. 0.0054;  
Matches 24: Conservative 20; Mismatches 34; Indels 11; Gaps 4;

OY 16 CTRNFSVSIREEEL-KRTDTIFWPGCLLVKRCGNCACCLHNCNECQVPSKYTKYHEV 74  
Db 51 CRPIETLVDIQEYRDELEIFKPSCVPLMKCG---CC--NDESLCEVPTEEFNITWQI 105

OY 75 LQLRPKTGVRLHSLDVALEHNEECDC 103  
Db 106 MRKPHQG-----QHIGEMSFLOHKKCEC 129

Search completed: July 3, 2001, 10:30:08  
Job time: 163 sec

GenCore version 4.5  
Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: July 3, 2001, 10:29:15 ; Search time 23.25 Seconds

(without alignments)  
631.650 Million cell updates/sec

Title: US-09-541-752-2\_COPY\_235\_345  
Perfect score: 621  
Sequence: 1 VVDNLTEEVRLYSCPRN.....DVALEHHECDVCGRGTG 111

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 425026 seqs, 133305027 residues

Total number of hits satisfying chosen parameters: 425026

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :  
1: SP-archaea:\*  
2: SP-bacteria:\*  
3: SP-fungi:\*  
4: SP-human:\*  
5: SP\_invertebrate:\*  
6: SP\_mammal:\*  
7: SP\_mhc:\*  
8: SP-organelle:\*  
9: SP-phage:\*  
10: SP-plant:\*  
11: SP-rodent:\*  
12: SP\_unclassified:\*  
13: SP-vertebrate:\*  
14: SP-virus:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	621	100.0	345	4	09UL22
2	621	100.0	345	4	09NBA1
3	591	95.2	345	11	09QV71
4	584	94.0	345	11	09JHVB
5	578	93.1	345	11	09E0X6
6	551	88.7	345	13	091946
7	318.5	51.3	370	4	09GAP0
8	318.5	51.3	370	11	09E0R1
9	121.5	19.6	326	11	035251
10	119.5	19.2	358	11	P97946
11	115.5	18.6	354	4	043915
12	108.5	17.5	148	13	042571
13	108.5	17.5	194	13	042572
14	105	16.9	185	4	015354
15	105	16.9	207	4	016528
16	105	16.9	210	6	029613
17	105	16.9	226	4	029613
18	104.5	16.8	147	4	09UH58
19	104.5	16.8	171	4	09HIW8

20	104.5	16.8	174	4	09UL23	09UL23 homo sapien
21	104.5	16.8	209	4	060720	060720 homo sapien
22	104.5	16.8	232	4	09HIW9	09HIW9 homo sapien
23	104.5	16.8	254	4	016889	016889 homo sapien
24	102.5	16.5	190	6	09XSF3	09XSF3 canis fam11
25	102.5	16.5	190	6	09GL52	09GL52 sus scrofa
26	102.5	16.5	208	6	09XSF4	09XSF4 canis fam11
27	102.5	16.5	214	6	09XSF5	09XSF5 canis fam11
28	102.5	16.5	214	6	09MYV3	09MYV3 canis fam11
29	102	16.4	188	6	09XSA8	09XSA8 bos taurus
30	102	16.4	193	6	09XSA9	09XSA9 bos taurus
31	102	16.4	301	5	09VWP6	09VWP6 drosophila
32	101.5	16.3	118	6	09MZB1	09MZB1 ovis aries
33	101.5	16.3	124	6	09GK00	09GK00 callithrix
34	101.5	16.3	190	6	077643	077643 ovis aries
35	101.5	16.3	418	13	057352	057352 colurnix co
36	101.5	16.3	420	6	09XSS0	09XSS0 bos taurus
37	100.5	16.2	144	13	073822	073822 brachydanio
38	100.5	16.2	188	13	073682	073682 brachydanio
39	100.5	16.2	190	11	09QX39	09QX39 spalax leuc
40	98	15.8	75	6	018843	018843 oryctolagus
41	98	15.8	78	6	09NIS2	09NIS2 capreolus c
42	98	15.8	123	6	09NIS1	09NIS1 capreolus c
43	97.5	15.7	211	13	09PUF7	09PUF7 gallus gall
44	97.5	15.7	146	11	09QXG6	09QXG6 rattus norv
45	97.5	15.7	190	6	09GKR0	09GKR0 equus cabal

## ALIGNMENTS

RESULT 1  
ID 09UL22 PRELIMINARY: PRT: 345 AA.

AC 09UL22;  
DT 01-MAY-2000 (TREMBLrel. 13, Created)  
DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)  
DT 01-MAR-2001 (TREMBLrel. 16, Last annotation update)  
DE SECRETORY GROWTH FACTOR-LIKE PROTEIN FALLOTEIN (SPINAL CORD-DERIVED GROWTH FACTOR).  
GN HSCGF.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
RA TISSUE-UTERUS;  
RC Tsai Y.J., Lee R.K., Lin S.P.;  
RT "Fallotein, a novel growth factor like gene identified in human uterus";  
RL Submitted (SEP-1998) to the EMBL/GenBank/DBJ databases.  
RN [2]  
RP SEQUENCE FROM N.A.  
RC TISSUE-BRAIN;  
RX MEDLINE=20317014; PubMed=10858496;  
RA Hamada T., Ui-Tel K., Miyata Y.;  
RT "A novel gene derived from developing spinal cords, SCDF, is a unique member of the PDGF/VEGF family";  
RL FEBS Lett. 475:97-102(2000).  
DR EMBL; AF091434; AA00049.1;  
DR EMBL; AB033831; BAB03266.1;  
DR InterPro: IPR000072;  
DR InterPro: IPR000859;  
DR Pfam: PF00341; PDGF; 1.  
DR Pfam: PF00431; CUB; 1.  
DR PROSITE: PS01180; CUB; 1.  
DR PROSITE: PS50278; PDGF\_2; 1.  
DR SMART: SM00042; CUB; 1.  
SQ SEQUENCE 345 AA; 39029 MW; CDE9E51F40633E78 CRC64;

Query Match 100.0%; Score 621; DB 4; Length 345;

Best Local Similarity 100.0%; Pred. No. 1.4e-63;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 VVDNLTLTEEVRLYSCPRNFSVSIRELKRDTDFMPGCLLVKRCGNCACCLHNCNEC 60  
DB 235 VVDNLTLTEEVRLYSCPRNFSVSIRELKRDTDFMPGCLLVKRCGNCACCLHNCNEC 294  
OY 61 QCVPSKYTKKKYHEVQLRPKTVGRLHKSLLTDVLALEHHECCDCVCRGSTGG 111  
DB 295 QCVPSKYTKKKYHEVQLRPKTVGRLHKSLLTDVLALEHHECCDCVCRGSTGG 345

RESULT 2  
O9NRAL PRELIMINARY; PRT; 345 AA.

AC O9NRAL: 01-OCT-2000 (TREMBlrel. 15, Created)  
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)  
DT 01-MAR-2001 (TREMBlrel. 16, Last annotation update)  
DE PLATELET-DERIVED GROWTH FACTOR C.  
OS Homo sapiens (Human).  
OC Eukaryota; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
ON NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=LUNG;  
RA Li X., Ponten A., Aase K., Karlsson L., Abramsson A., Untela M.,  
RA Backstrom G., Hellstrom M., Bostrom H., Li H., Soriano P.,  
RA Bershoitz C., Heidlin C.-H., Allitalo K., Oskman A., Eriksson U.;  
RT "PDGF-C is a novel protease-activated ligand for the PDGF alpha  
receptor.";  
RL Nat. Cell Biol. 0:0-0(2000).  
DR EMBL: AF244813; AAF80597.1; -;  
DR InterPro: IPR000072; -;  
DR InterPro: IPR000859; -;  
DR Pfam: PF00341; PDGF. 1.  
DR Pfam: PF00431; CUB. 1.  
DR PROSITE: PS01180; CUB. 1.  
DR PROSITE: PS50278; PDGF\_2; 1.  
DR SMART: SM00042; CUB. 1.  
SQ SEQUENCE 345 AA; 39043 MW; 5908899CEA55CC5EA CRC64;

Query Match 100.0%; Score 621; DB 4; Length 345;  
Best Local Similarity 100.0%; Pred. No. 1.4e-63;  
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 VVDNLTLTEEVRLYSCPRNFSVSIRELKRDTDFMPGCLLVKRCGNCACCLHNCNEC 60  
DB 235 VVDNLTLTEEVRLYSCPRNFSVSIRELKRDTDFMPGCLLVKRCGNCACCLHNCNEC 294  
OY 61 QCVPSKYTKKKYHEVQLRPKTVGRLHKSLLTDVLALEHHECCDCVCRGSTGG 111  
DB 295 QCVPSKYTKKKYHEVQLRPKTVGRLHKSLLTDVLALEHHECCDCVCRGSTGG 345

RESULT 3  
O9OY71 PRELIMINARY; PRT; 345 AA.

AC O9OY71: 01-MAY-2000 (TREMBlrel. 13, Created)  
DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)  
DT 01-MAR-2001 (TREMBlrel. 16, Last annotation update)  
DE FALLOVEIN.  
OS Mus musculus (Mouse).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
ON NCBI\_TaxID=10090;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=OVARY;  
DT Tsai Y.-J., Lee R.K.-K., Chen Y.-H., Lin S.-P., Cheng W.T.-K.;

RT "cDNA cloning of falloletin from mouse ovary."  
RL Submitted (JAN-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL: AF117608; AAF22516.1; -;  
DR InterPro: IPR000072; -;  
DR InterPro: IPR000859; -;  
DR Pfam: PF00431; CUB. 1.  
DR PROSITE: PS01180; CUB. 1.  
DR PROSITE: PS50278; PDGF\_2; 1.  
DR SMART: SM00042; CUB. 1.  
SQ SEQUENCE 345 AA; 38741 MW; 3A58A1F701B84E2A CRC64;

Query Match 95.2%; Score 591; DB 11; Length 345;  
Best Local Similarity 93.7%; Pred. No. 4e-60;  
Matches 104; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

OY 1 VVDNLTLTEEVRLYSCPRNFSVSIRELKRDTDFMPGCLLVKRCGNCACCLHNCNEC 60  
DB 235 VVDNLTLTEEVRLYSCPRNFSVSIRELKRDTDFMPGCLLVKRCGNCACCLHNCNEC 294  
OY 61 QCVPSKYTKKKYHEVQLRPKTVGRLHKSLLTDVLALEHHECCDCVCRGSTGG 111  
DB 295 QCVPSKYTKKKYHEVQLRPKTVGRLHKSLLTDVLALEHHECCDCVCRGNAG 345

RESULT 4  
O9JHVB PRELIMINARY; PRT; 345 AA.

AC O9JHVB: 01-OCT-2000 (TREMBlrel. 15, Created)  
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)  
DT 01-MAR-2001 (TREMBlrel. 16, Last annotation update)  
DE PLATELET-DERIVED GROWTH FACTOR C.  
ON PDGFC.  
OS Mus musculus (Mouse).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
ON NCBI\_TaxID=10090;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=SWISS-WEBSTER/NIH;  
RA Ding H., Wu X., Kim I., Tam P.P.L., Koh G.Y., Nagy A.;  
RT "The mouse *Pdgfr* gene: Dynamic expression in embryonic tissues during  
organogenesis.";  
RL Mech. Dev. 0:0-0(2000).  
DR EMBL: AF286725; AAF91483.1; -;  
DR InterPro: IPR000072; -;  
DR InterPro: IPR000859; -;  
DR Pfam: PF00431; CUB. 1.  
DR PROSITE: PS01180; CUB. 1.  
DR PROSITE: PS50278; PDGF\_2; 1.  
DR SMART: SM00042; CUB. 1.  
SQ SEQUENCE 345 AA; 38886 MW; FA1486BD6D362F8 CRC64;

Query Match 94.0%; Score 584; DB 11; Length 345;  
Best Local Similarity 92.8%; Pred. No. 2.5e-59;  
Matches 103; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

OY 1 VVDNLTLTEEVRLYSCPRNFSVSIRELKRDTDFMPGCLLVKRCGNCACCLHNCNEC 60  
DB 235 VVDNLTLTEEVRLYSCPRNFSVSIRELKRDTDFMPGCLLVKRCGNCACCLHNCNEC 294  
OY 61 QCVPSKYTKKKYHEVQLRPKTVGRLHKSLLTDVLALEHHECCDCVCRGSTGG 111  
DB 295 QCVPSKYTKKKYHEVQLRPKTVGRLHKSLLTDVLALEHHECCDCVCRGNAG 345

RESULT 5  
O9EOX6 PRELIMINARY; PRT; 345 AA.

AC O9EOX6: 01-MAR-2001 (TREMBlrel. 16, Created)

DT 01-MAR-2001 (TREMBlrel. 16, last sequence update)  
 DT 01-MAR-2001 (TREMBlrel. 16, last annotation update)  
 DE SPINAL CORD-DERIVED GROWTH FACTOR.  
 GN RSCDGF.  
 OS Rattus norvegicus (Rat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 OX NCBI\_TaxID=10116;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=H1STAR; TISSUE=KIDNEY;  
 RA Hamada T., U-Tel K., Imaki J., Miyata Y.;  
 RT "Molecular Cloning of SCDF-B, a Novel Growth Factor Homologous to  
 SCDF/PDGF-C/fallotelin.";  
 RL Biochem. Biophys. Res. Commun. 0:0-0(2000).  
 DR EMBL: AB033830; BAB19969.1; -  
 SO SEQUENCE 345 AA; 38734 MW; F296DA6E98765D10 CRC64;

Query Match 93.1%; Score 578; DB 11; Length 345;  
 Best Local Similarity 92.7%; Pred. No. 1.2e-58;  
 Matches 102; Conservative 4; Mismatches 4; Indels 0; Gaps 0;

OY 2 VDLNLTTEVRVLYSCTPRNFVSIREELKRTDTIFPGLCLYKRGCGNACCLHNCNEQ 61  
 DB 236 VNLNLEKEVLYSCTPRNFVSIREELKRTDTIFPGLCLYKRGCGNACCLHNCNEQ 295  
 OY 62 CVPKSVTKKYNHEVQLRPKTVRGGLKSLTDVALEHNEECDCVCRSTGG 111  
 DB 296 CVPKSVTKKYNHEVQLRPKTVRGGLKSLTDVALEHNEECDCVCRSTGG 345

RESULT 6  
 O91946 PRELIMINARY: PRT: 345 AA.  
 AC 091946;  
 DT 01-OCT-2000 (TREMBlrel. 15, Created)  
 DT 01-OCT-2000 (TREMBlrel. 15, last sequence update)  
 DT 01-MAR-2001 (TREMBlrel. 16, last annotation update)  
 DE SPINAL CORD-DERIVED GROWTH FACTOR.  
 GN SCDF.  
 OS Gallus gallus (Chicken).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae;  
 OC Gallus.  
 OX NCBI\_TaxID=9031;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=WHITE LEGHORN; TISSUE=SPINAL CORD;  
 RA MEDLINE-20317014; PubMed-10858496;  
 RA Hamada T., U-Tel K., Miyata Y.;  
 RT "A novel gene derived from developing spinal cords, SCDF, is a unique  
 member of the PDGF/VEGF family.";  
 RL FEBS Lett. 475:97-102(2000).  
 DR EMBL: AB033829; BAB03265.1; -  
 DR InterPro: IPR000859; -  
 DR Pfam: PF00431; CUB: 1.  
 DR PROSITE: PS01180; CUB: 1.  
 DR PROSITE: PS50278; PDGF\_2: 1.  
 DR SMART: SM00042; CUB: 1.  
 SO SEQUENCE 345 AA; 38940 MW; 97ACEA992BF5128C CRC64;

Query Match 88.7%; Score 551; DB 13; Length 345;  
 Best Local Similarity 86.5%; Pred. No. 1.6e-55;  
 Matches 96; Conservative 9; Mismatches 6; Indels 0; Gaps 0;

OY 1 VVDNLTTEVRVLYSCTPRNFVSIREELKRTDTIFPGLCLYKRGCGNACCLHNCNEQ 60  
 DB 235 VVDNLTTEVRVLYSCTPRNFVSIREELKRTDTIFPGLCLYKRGCGNACCLHNCNEQ 294  
 OY 61 QCVPSKTKKYNHEVQLRPKTVRGGLKSLTDVALEHNEECDCVCRSTGG 111

DB 295 QCVPSKTKKYNHEVQLRPKTVRGGLKSLTDVALEHNEECDCVCRSTGG 345

RESULT 7  
 O9GZP0 PRELIMINARY: PRT: 370 AA.  
 AC 09GZP0;  
 DT 01-MAR-2001 (TREMBlrel. 16, Created)  
 DT 01-MAR-2001 (TREMBlrel. 16, last sequence update)  
 DT 01-MAR-2001 (TREMBlrel. 16, last annotation update)  
 DE SPINAL CORD-DERIVED GROWTH FACTOR-B (MSTP036).  
 GN HSCDGF-B.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Hamada T., U-Tel K., Imaki J., Miyata Y.;  
 RT "Molecular Cloning of SCDF-B, a Novel Growth Factor Homologous to  
 SCDF/PDGF-C/fallotelin.";  
 RL Biochem. Biophys. Res. Commun. 0:0-0(2000).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=AORTA;  
 RA Liu B., Liu Y.O., Wang X.Y., Zhao B., Sheng H., Zhao X.W., Liu S.,  
 RA Xu Y.Y., Ye J., Song L., Gao Y., Zhang C.L., Zhang J., Wei Y.J.,  
 RA Cao H.Q., Zhao Y., Liu L.S., Ding J.F., Gao R.L., Wu Q.Y., Qiang B.O.,  
 RA Yuan J.G., Liew C.C., Zhao M.S., Hui R.T.;  
 RL Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.  
 DR EMBL: AB033832; BAB18903.1; -  
 DR EMBL: AF113216; AAC39287.1; -  
 SO SEQUENCE 370 AA; 42848 MW; D387F485E7B87674 CRC64;

Query Match 51.3%; Score 318.5; DB 4; Length 370;  
 Best Local Similarity 53.3%; Pred. No. 1e-28;  
 Matches 57; Conservative 14; Mismatches 33; Indels 3; Gaps 1;

OY 2 VDLNLTTEVRVLYSCTPRNFVSIREELKRTDTIFPGLCLYKRGCGNACCLHNCNEQ 61  
 DB 258 VDLNLTTEVRVLYSCTPRNFVSIREELKRTDTIFPGLCLYKRGCGNACCLHNCNEQ 317  
 OY 62 CVPKSVTKKYNHEVQLRPKTVRGGLKSLTDVALEHNEECDCV 105  
 DB 318 CVPKSVTKKYNHEVQLRPKTVRGGLKSLTDVALEHNEECDCV 364

RESULT 8  
 O9EOT1 PRELIMINARY: PRT: 370 AA.  
 AC 09EOT1;  
 DT 01-MAR-2001 (TREMBlrel. 16, Created)  
 DT 01-MAR-2001 (TREMBlrel. 16, last sequence update)  
 DT 01-MAR-2001 (TREMBlrel. 16, last annotation update)  
 DE SPINAL CORD-DERIVED GROWTH FACTOR-B.  
 GN RSCDGF-B.  
 OS Rattus norvegicus (Rat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 OX NCBI\_TaxID=10116;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Hamada T., U-Tel K., Imaki J., Miyata Y.;  
 RT "Molecular Cloning of SCDF-B, a Novel Growth Factor Homologous to  
 SCDF/PDGF-C/fallotelin.";  
 RL Biochem. Biophys. Res. Commun. 0:0-0(2000).  
 DR EMBL: AB052170; BAB18920.1; -  
 SO SEQUENCE 370 AA; 42809 MW; 7B8A251F679BF73 CRC64;

Query Match 51.3%; Score 318.5; DB 11; Length 370;

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Best Local Similarity   52.3%; Pred. No. le-28;
Matches    56; Conservative    17; Mismatches    31; Indels    3; Gaps    1

Oy      2 VDLNLTEBVRLYSCTPRNFVSIRELKRDTITMPGCLLYKRCGGNCACCLHNCNECQ 61
       ||| : :: : ||||| |::||| |::| : : : ||| : ||| | : |
Db      258 VOLDRLENDVKKRYSCTPRNHSVNLRREELKTNAVFRRCLLYORCGNGCCGTLMKRSCT 317

Oy      62 CVPKSVTKKKYHEVLQLRP---KTGRGLHKSLTDVALENHNEDDCVC 105
       | | | | | | | | | | | | : : : | : | : | | | | | | |
Db      318 CSSGTVKKKYHEVLKEFGHFRRKRRAKMALVDIQLDHNHRCDIC 364

RESULT      9
ID          035251 PRELIMINARY: PRT: 326 AA.
AC          035251;
DT          01-JAN-1998 (TREMBLrel. 05, Created)
Dr          01-JAN-1998 (TREMBLrel. 05, Last sequence update)
DE          01-MAR-2001 (TREMBLrel. 16, Last annotation update)
DE          VASCULAR ENDOTHELIAL GROWTH FACTOR D.
GN          VEGF-D.
OC          Rattus norvegicus (Rat.).
OC          Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC          Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
RX          NCBI_TaxID=10116;
RN          [1]
RP          SEQUENCE FROM N.A.
RC          STRAIN=SPRAGUE DAWLEY;
RX          MEDLINE=97349118; PubMed=9205122;
RA          Yamada Y., Nezu J., Shimane M., Hirata Y.;
RT          "Molecular cloning of a novel vascular endothelial growth factor,
RT          VEGF-D."
RL          Genomics 42:483-488(1997).
DR          EMBL; AF014827; AAB6557.1; -.
DR          HSSP; P15692; IYPP.
DR          InterPro; IPRO00072; -.
DR          Pfam; PF00341; PDGF_1.
DR          Prodom; PD001629; -.
DR          PROSITE; PS00249; PDGF_1;
DR          PROSITE; PS0278; PDGF_2; 1.
DR          SMART; SM00141; PDGF; 1.
SO          SEQUENCE 326 AA; 37112 MW; 1261AFA373596C00 CRC64;

Query Match                               19.6%; Score 121.5; DB 11; Length 326;
Best Local Similarity                     33.3%; Pred. NO. 4.5e-06;
Matches    36; Conservative    15; Mismatches    42; Indels    15; Gaps    6

Oy      4 LNLLEBVRLYSCTPRNFVSIREL-KTDTITFMPCGLLYKRCGGNCACCLHNCNECQ 62
       | : | : | : | : | : | : | : | : | : | : | : | : |
Db      104 LKVIDEOWORTCSPRETCVEVASSELKTTNFFFKPPCVFRGCG--CC--NEESVNC 158

Oy      63 V---PSKVTKKKYHEVLQLRPKTGVRGLHKSLTDVALENHNEDDCVCRG 107
       | : | : | : | : | : | : | : | : | : | : | : | : |
Db      159 NMSTSYISKLPETISV--PLTSV----PELVPKVIANTHTGCKCLPTG 200

RESULT      10
ID          P97946 PRELIMINARY: PRT: 358 AA.
AC          P97946;
DT          01-MAY-1997 (TREMBLrel. 03, Created)
Dr          01-MAY-1997 (TREMBLrel. 03, Last sequence update)
DE          01-MAR-2001 (TREMBLrel. 16, Last annotation update)
DE          VASCULAR ENDOTHELIAL GROWTH FACTOR D (C-FOS INDUCED GROWTH FACTOR).
GN          VEGF-D OR FIGF.
OC          Mus musculus (Mouse).
OC          Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC          Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX          NCBI_TaxID=10090;
RN          [1]
RP          SEQUENCE FROM N.A.
RC          STRAIN=C57BL/6J;
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	RN	MELINE=97030254; PubMed=8876195;		
RA	Orlandini M., Marconcini L., Ferruzzi R., Oliviero S.;			
RT	"Identification of a c-fos-induced gene that is related to the			
RT	platelet-derived growth factor/vascular endothelial growth factor			
RT	family.";			
RL	Proc. Natl. Acad. Sci. U.S.A. 93:11675-11675(1996).			
RN	[2]			
RP	SEQUENCE FROM N.A.			
RC	TISSUE=LUNG;			
RX	MEDLINE=97349118; PubMed=9205122;			
RA	Yamada Y., Nezu J., Shimane M., Hirata Y.;			
RT	"Molecular cloning of a novel vascular endothelial growth factor,			
RT	VEGF-D."			
RL	Genomics 42:483-488(1997).			
DR	EMBL; X95972; CA67892.1; -			
DR	EMBL; D89628; BAA14002.1; -			
DR	HSSP; P15692; IVP.			
DR	MCD; MG1:108037; Flg.f.			
DR	InterPro; IPRO00072; -			
DR	Pfam; PF00341; PDGF; 1.			
DR	Prodome; PD001628; -; 1.			
DR	PROSITE; PS00249; PDGF_1; 1.			
DR	PROSITE; PS50278; PDGF_2; 1.			
DR	SMART; SM00141; PDGF; 1.			
SO	SEQUENCE 358 AA; 40908 MW; 6636B17FBAF07037C CRC64;			
	Query Match	19.2%; Score 119.5; DB 11; Length 358;		
	Best Local Similarity	33.3%; Pred. No. 8.4e-06;		
	Matches 36; Conservative % 15; Mismatches 42; Indels 15; Gaps			
OY	4 LNLTLEEVRLXSCPRNSVSIREL-KRTPDIFPPGGLLYRRGGNCACCLHNNEQC 62			
Db	104 LKVIDEEMQRTQCSRETCVEASLGKTITTFEAPCVNFRCG---CC--NEGVWC 158			
OY	63 V---PSKTKRYHEYLQLRPRTGYGLHSLTDVALHHNEEDCYCRG 107			
Db	159 MNTSYYSISKOLFELSV--PLTSV----PELVPAVKIAHHGTCKLCPLTG 200			
RESULT 11				
ID 043915	PRELIMINARY;	PRT: 354 AA.		
AC 043915:				
DT 01-JUN-1998 (TREMBLrel. 06, Created)				
DT 01-JUN-1998 (TREMBLrel. 06, Last sequence update)				
DT 01-MAR-2001 (TREMBLrel. 16, Last annotation update)				
DE GROWTH FACTOR FIGF.				
CN FIGF OR VEGF-D.				
OS Homo sapiens (Human).				
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;				
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.				
OX NCBI_Taxid:9606;				
RN [1]				
RP SEQUENCE FROM N.A.				
RX MEDLINE=98140120; PubMed=9479493;				
RA Rocchiagianni M., Lestingi M., Ludai A., Orlandini M., Franco B.,				
RA Rossi E., Ballabio A., Zuffardi O., Oliviero S.;				
RT "Human FIGF: cloning, gene structure, and mapping to chromosome Xp22.1				
RT between the FIGA and the GRP genes.";				
RL Genomics 47:207-216(1998).				
RN [2]				
RP SEQUENCE FROM N.A.				
RC TISSUE=LUNG;				
RX MEDLINE=97349118; PubMed=9205122;				
RA Yamada Y., Nezu J., Shimane M., Hirata Y.;				
RT "Molecular cloning of a novel vascular endothelial growth factor,				
RT VEGF-D."				
RL Genomics 42:483-488(1997).				
RN [3]				
RP SEQUENCE FROM N.A.				
RX MEDLINE=98118549; PubMed=9435929;				
RA Achen M.G., Jeltsch M., Kukk E., Maekinen T., Vitali A., Wilks A.F.,				



RA Alltalo K., Stacker S.A.:  
RT "Vascular endothelial growth factor D (VEGF-D) is a ligand for the  
RT tyrosine kinases VEGF receptor 2 (Flk1) and VEGF receptor 3 (Flk4).";  
RL Proc. Natl. Acad. Sci. U.S.A. 95:548-553(1998).  
DR EMBL: Y12865; CAA73371.1; JOINED.  
DR EMBL: Y12866; CAA73371.1; JOINED.  
DR EMBL: Y12867; CAA73371.1; JOINED.  
DR EMBL: Y12868; CAA73371.1; JOINED.  
DR EMBL: Y12869; CAA73371.1; JOINED.  
DR EMBL: Y12870; CAA73371.1; JOINED.  
DR EMBL: D89630; BAA24264.1; -.  
DR EMBL: AJ000185; CAA03942.1; -.  
DR EMBL: Y12863; CAA73370.1; -.  
DR HSSP: P15692; 1VPP.  
DR InterPro: IPR000072; -.  
DR Pfam: PF00341; PDGF\_1; -.  
DR ProDom: PD001629; -. 1.  
DR PROSITE: PS00249; PDGF\_1; 1.  
DR PROSITE: PS0278; PDGF\_2; 1.  
DR SMART: SM00141; PDGF; 1.  
SQ SEQUENCE 354 AA; 40444 MW; 2048D769D735173E CRC64;

Query Match 18.6%; Score 115.5; DB 4; Length 354;  
Best Local Similarity 33.0%; Pred. No. 2,4e-05;  
Matches 34; Conservative 14; Mismatches 44; Indels 11; Gaps 5;  
OY 4 LNLLEEVRLVYCTPRNFVSIREL-KRTDTIFWPGCLLVKRCGNCACCLHNECQ-0 61  
DB 99 LKVIDEWMQRTQCSPPREVEASELKGSTNTEFKPCVNVFCG---CCNESLICHN 155  
OY 62 CVPSKTKYHNEOLDRPKTVGRLHSLTDVLEHNECDV 104  
DB 156 TSTSYISKOLFELSV---PLTSV---PELVYKVAHNTGCKCL 192

RESULT 12  
O42571 PRELIMINARY: PRT: 148 AA.  
AC O42571:  
DT 01-JAN-1998 (TREMBLrel. 05, Created)  
DT 01-JAN-1998 (TREMBLrel. 05, Last sequence update)  
DT 01-MAR-2001 (TREMBLrel. 16, Last annotation update)  
DE VASCULAR ENDOTHELIAL GROWTH FACTOR 122.  
GN VEGF.  
OS Xenopus laevis (African clawed frog).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;  
OC Xenopodinae; Xenopus.  
OX NCBI\_TaxID=8335;  
RN [1]  
RP SEQUENCE FROM N.A.  
RA Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.:  
RL Submitted (JUN-1997) to the EMBL/GenBank/DBJ databases.  
DR EMBL: AF008593; AAB63679.1; -.  
DR HSSP: P15692; 1VPP.  
DR InterPro: IPR000072; -.  
DR Pfam: PF00341; PDGF; 1.  
DR ProDom: PD001629; -. 1.  
DR PROSITE: PS00249; PDGF\_1; 1.  
DR PROSITE: PS0278; PDGF\_2; 1.  
DR SMART: SM00141; PDGF; 1.  
SQ SEQUENCE 148 AA; 17234 MW; 4AD153CA2F8B1E95 CRC64;

Query Match 17.5%; Score 108.5; DB 13; Length 148;  
Best Local Similarity 25.8%; Pred. No. 6,6e-05;  
Matches 23; Conservative 21; Mismatches 34; Indels 11; Gaps 4;  
OY 16 CTPRNFVSIREL-KRTDTIFWPGCLLVKRCGNCACCLHNECQVPSKYTKYHVEV 74  
DB 52 COVREILVDIFQYPRVEVEYIFKPCVPLMRG---CC--NDESLCVTECYNTTMOI 106

OY 75 LQLRPKTVGRLHSLTDVLEHNECDV 103  
DB 107 MKIKPH-----ISOHIMDSFOHSCCEC 130

RESULT 13  
O42572 PRELIMINARY: PRT: 194 AA.  
AC O42572:  
DT 01-JAN-1998 (TREMBLrel. 05, Created)  
DT 01-JAN-1998 (TREMBLrel. 05, Last sequence update)  
DT 01-MAR-2001 (TREMBLrel. 16, Last annotation update)  
DE VASCULAR ENDOTHELIAL GROWTH FACTOR 196.  
GN VEGF.  
OS Xenopus laevis (African clawed frog).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;  
OC Xenopodinae; Xenopus.  
OX NCBI\_TaxID=8335;  
RN [1]  
RP SEQUENCE FROM N.A.  
RA Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.:  
RL Submitted (JUN-1997) to the EMBL/GenBank/DBJ databases.  
DR EMBL: AF008594; AAB63680.1; -.  
DR HSSP: P15692; 1VGH.  
DR InterPro: IPR000072; -.  
DR Pfam: PF00341; PDGF; 1.  
DR ProDom: PD001629; -. 1.  
DR PROSITE: PS00249; PDGF\_1; 1.  
DR PROSITE: PS0278; PDGF\_2; 1.  
DR SMART: SM00141; PDGF; 1.  
SQ SEQUENCE 194 AA; 22672 MW; 85D7BEC7CEFE17E CRC64;

Query Match 17.5%; Score 108.5; DB 13; Length 194;  
Best Local Similarity 25.8%; Pred. No. 8,6e-05;  
Matches 23; Conservative 21; Mismatches 34; Indels 11; Gaps 4;  
OY 16 CTPRNFVSIREL-KRTDTIFWPGCLLVKRCGNCACCLHNECQVPSKYTKYHVEV 74  
DB 52 COVREILVDIFQYPRVEVEYIFKPCVPLMRG---CC--NDESLCVTECYNTTMOI 106  
OY 75 LQLRPKTVGRLHSLTDVLEHNECDV 103  
DB 107 MKIKPH-----ISOHIMDSFOHSCCEC 130

RESULT 14  
O15354 PRELIMINARY: PRT: 185 AA.  
AC O15354:  
DT 01-NOV-1996 (TREMBLrel. 01, Created)  
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)  
DT 01-MAR-2001 (TREMBLrel. 16, Last annotation update)  
DE C-SIS PROTO-ONCOGENE (FRAGMENT).  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=CHORIOCARINOMA;  
RX MEDLINE=9538493; PubMed=7659502;  
RA Dicks R.P.H., Onnekink C., Jansen H.J., de Jong A., Bloemers H.P.J.:  
RT "A novel human C-SIS mRNA species is transcribed from a promoter in c-  
RT sis intron 1 and contains the code for an alternative PDGF B-like  
RT protein.";  
RL Nucleic Acids Res. 23:2815-2822(1995).  
DR EMBL: X83705; CAA58679.1; -.  
DR HSSP: P01127; 1PDG.  
DR InterPro: IPR000072; -.  
DR Pfam: PF00341; PDGF; 1.

